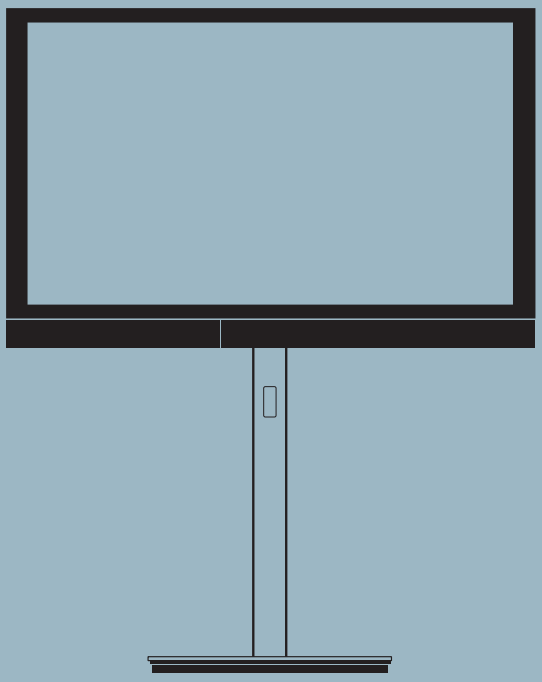
BeoVision 7 – 32

Type 9310 - 9320

Service Manual
English

German, French, Italian, Spanish, Danish and Dutch versions are available in the Retail System

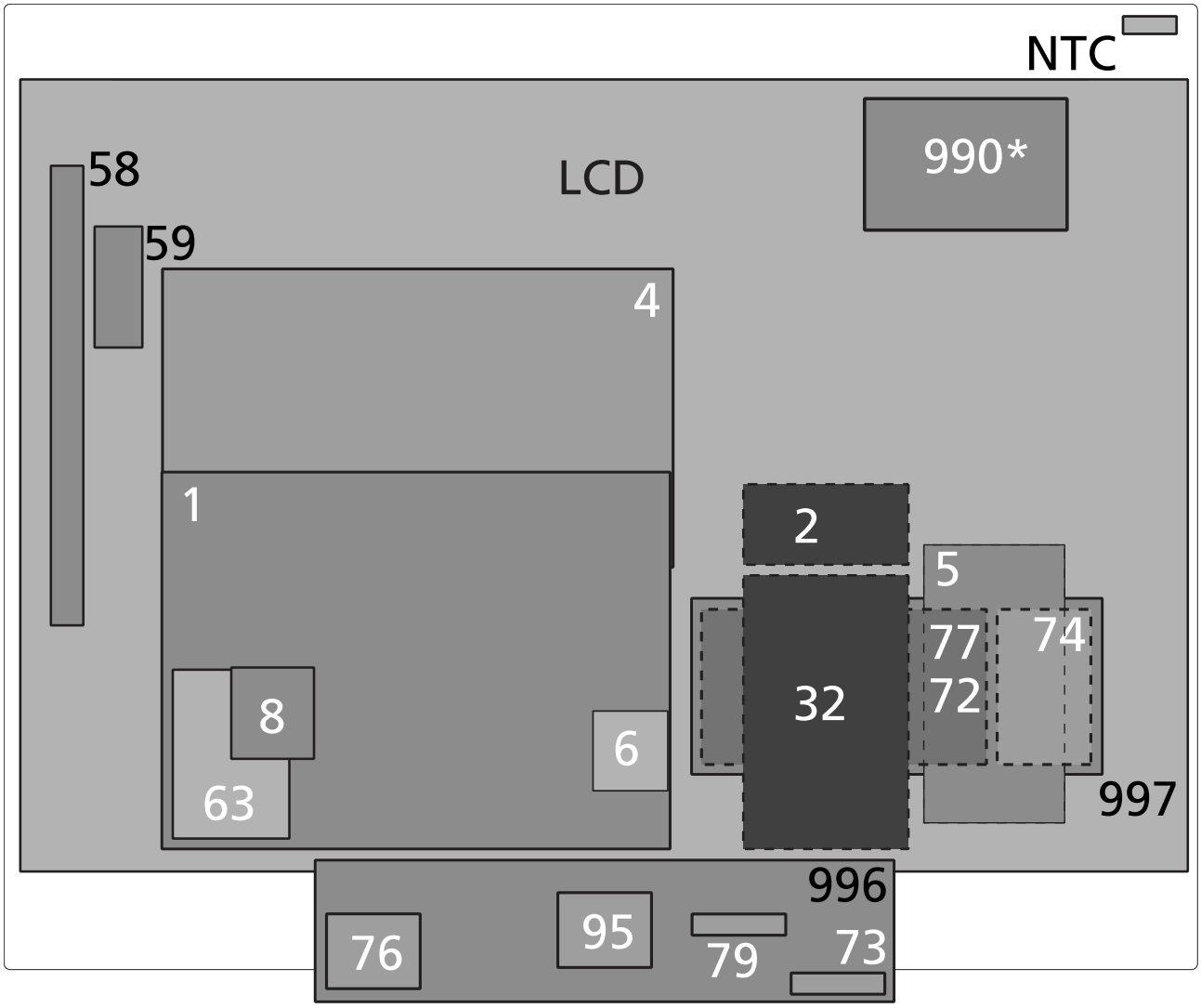


This Service Manual must be returned with the defective parts/back-up suitcase !

BANG & OLUFSEN

CONTENTS

Survey of modules



990 module*, DVB-S chassis	Incl. PCB21, PCB22
996 module, DVD Mechanism	Incl. PCB73, PCB76, PCB79, PCB95
997 module, DVD Main chassis	Incl. PCB72, PCB77
999 module, Main chassis	Incl. PCB1, PCB2, PCB4, PCB5, PCB6, PCB32, PCB63, NTC
PCB58	Status Display
PCB59	Camcorder
PCB74	DVD Supply
LCD, PCB8	LCD

How to service

Strategy

The television is to be serviced in the customer's home.

The static-protective field service kit must always be used when the product is disassembled or modules are being handled.

The repair involves replacement of the Main chassis, DVD main chassis, module(s), fan(s) or LCD panel.
The replaced modules must be returned for repair at Bang & Olufsen, Module Repair Department.
Fault description and error codes must be returned with the replaced parts.
Use the Module Repair form or the form in the Retail Order System, Exchange Module.

The EEPROM 6IC6 must be transferred to the chassis in the television, hereby maintaining the customer settings.

The ServiceTool is required in several service situations, e.g. update of SW or changing the region setting.
Refer to the ServiceTool for full description of features and operation.

Preparations before service

Always remember to download the latest version of the Service Manual.
Fault description and error codes must be returned with the replaced parts.
Use the Module Repair form or the form in the Retail Order System, Exchange Module.

Fault explanation and demonstration

Before troubleshooting is initiated, let the customer demonstrate the fault, if possible.

Error code

The error code contains data that may be used for repairing the module(s) and must be returned with the module(s).

Handling the error code

1. Take a note of the error code, for example on the Module repair form.
2. Use the error code when trouble shooting.
3. Return the error code, either on the Module Repair form or in the Retail system.
4. Before returning the television to the customer, clear the error code.

Recommended tools for service

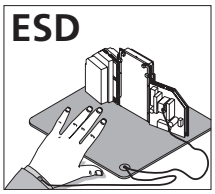
B&O ServiceTool.
Service stand.
B&O Test tape, for geometry check. (Part no. 6780000).
Ruler for geometry check/adjustment.
White gloves.
Soft lint-free cloth.
ML-tester.
B&O programmer (ML kit must be installed.
IC-pliers. (Part no. 3629145).

Handling and cleaning

Static electricity

Static electricity may damage the television.

Static-protective field service kit.
A static-protective field service kit must always be used when the product is disassembled or modules are being handled.
Follow the instructions in the guide and use the ESD-mat for both old and new modules.



Please note:
When mains voltage on the product is required, remove the connection between the product and the ESD-mat.

The chassis or modules must always be connected to the static-protective field service kit or placed in an ESD-proof bag.

Symbol of safety components

When replacing components with this symbol, the same type has to be used, also the same values for ohm and watt.
The new component is to be mounted in the same way as the replaced one.

Lithium battery

WARNING
Short-circuit and overcharging of some types of lithium batteries may result in a violent explosion.

Transport and handling

It is recommended to:

- place the product in up right position, during service or transport.
- use the product cover when transporting the television.

Mounting or dismounting the service stand

Place the television on the rear cover and mount the service stand.
See illustrations page 5.4.

Cleaning

Please refer to the chapter "Final check after repair" or the User's guides.

PIN-code

The TV has a 4 digit PIN-code, of the user´s own choice, which must be entered if the TV has been disconnected from the mains for 15-30 min.
If the PIN-code is activated, and the TV has been without mains for 15-30 min., the user will be asked to enter the 4 digit PIN-code when the TV is switched on.

Before the TV is handed in to service it is a good idea to ask the customer to deactivate the PIN-code.

The PIN-code is activated when the TV is shipped from Bang & Olufsen.

Refer to the user guide for further information

PIN-code active prior to service

If the PIN-code is not deactivated prior to service you must use the Service code to unlock the product.

Service code

The service code
- unlocks the product, but does not affect the pin-code setting
- gives you 12 hours service time

Entering the Service code

1. When the product asks for PIN-CODE press and hold ◀◀ for 3 seconds.
2. The Master code menu appears.
3. Enter the Service code: 1 1 1 1 1.

Important notice concerning Service time

The service time is active as long as the product is connected to the mains, including Standby.

To obtain maximum service time:
Only connect the product to the mains while you are performing actual service on the product.

When the service time is expired, the product can only be unlocked by entering the PIN-code or the Master code.

Registration of the modules

The modules will be registered to the product in the following situations:
- the product has been connected to the mains for more than 12 hours, including Standby time.
- the PIN-code is activated or deactivated.

PIN-code deactivated by customer prior to service

With the PIN-code deactivated prior to service you must be aware of the modules will be registered to the product in the following situations :
- the product has been connected to the mains for more than 12 hours, including Standby time.
- the PIN-code is activated or deactivated.

The registration of modules in the product can only be changed at Bang & Olufsen.

Activate the PIN-code

Select the TV SETUP menu.
Press ◀◀ twice and then **STOP** to bring up the PINCODE SETUP menu.
Enter the 4 digit Pin-code. Re-enter the code to confirm it and press **GO**.
If you want to change or delete the PIN-code, enter the correct PIN-code and press **GO**.
It is now possible to change the PIN-code or delete the PIN-code.

Enter the PIN-code

If the PIN-code is activated and the TV is disconnected from the mains for more than15-30 minutes, a PINCODE menu appears as soon as the TV is switched on.
Enter the PIN-code, and the TV starts again.

If the PIN-code has been forgotten

If the PIN-code has been forgotten the only way to unlock the TV again is by entering a 5 digit Master-code.
The Master-code is ordered by sending a request via the Retail System.
When the TV prompts for a PIN-code, press and hold ◀◀ down to bring up the MASTERCODE menu.
Enter the Master-code and press **GO**. This will deactivate the PIN-code and reactivate the TV.

TV locked by PIN-code

The TV is locked by PIN-code when:

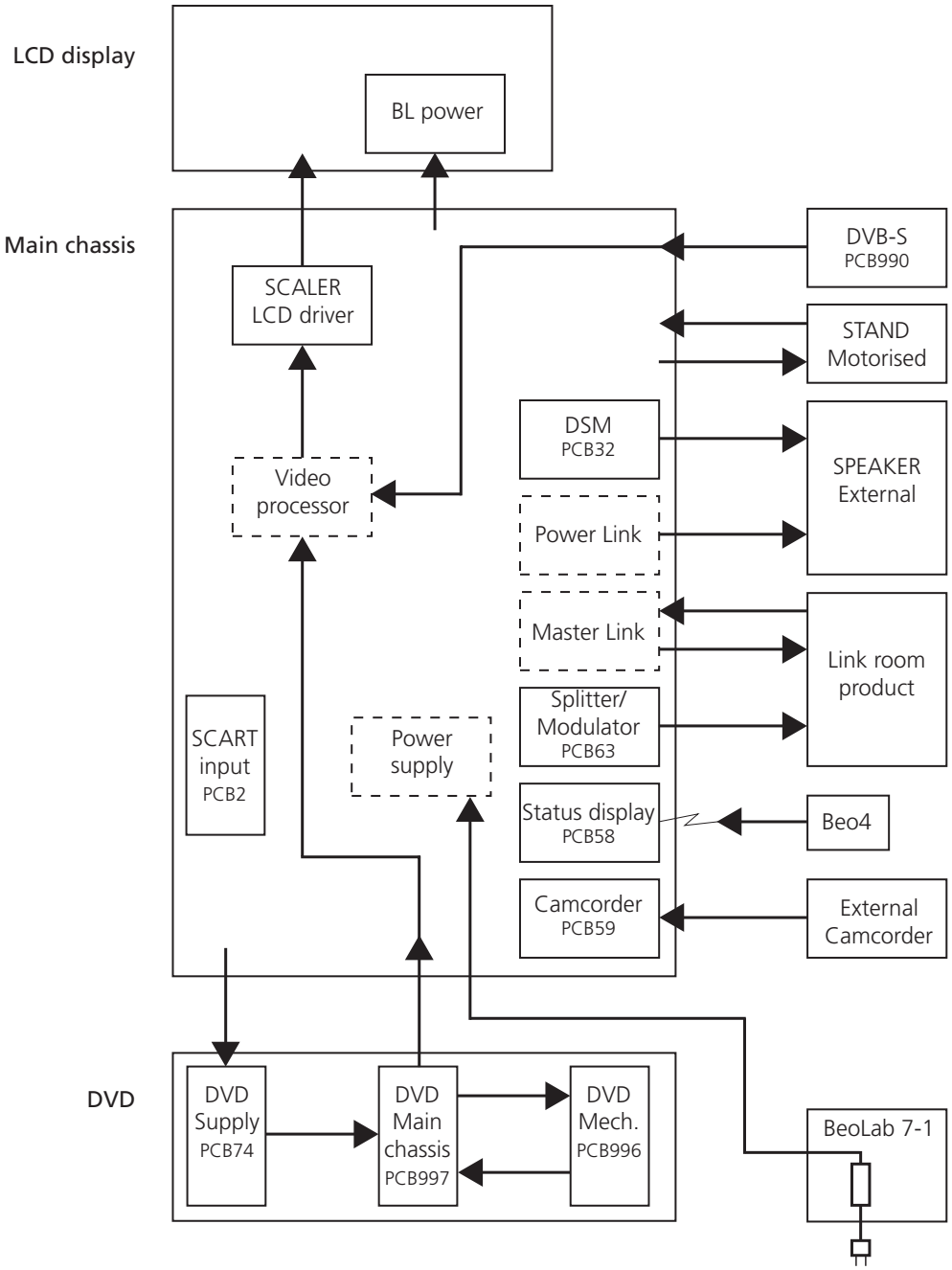
- The PIN-code is activated and the mains is disconnected for more than 15- 30 minutes.

The TV is unlocked when the PIN-code is entered.

The PIN-code counter is set to 5 attempts within 3 hours.
When a wrong PIN-code has been entered 5 times within 3 hours, the television cannot receive any commands for a period of 3 hours.
After this period the PIN-code counter is reset.
The TV must be in standby mode to activate the timer.

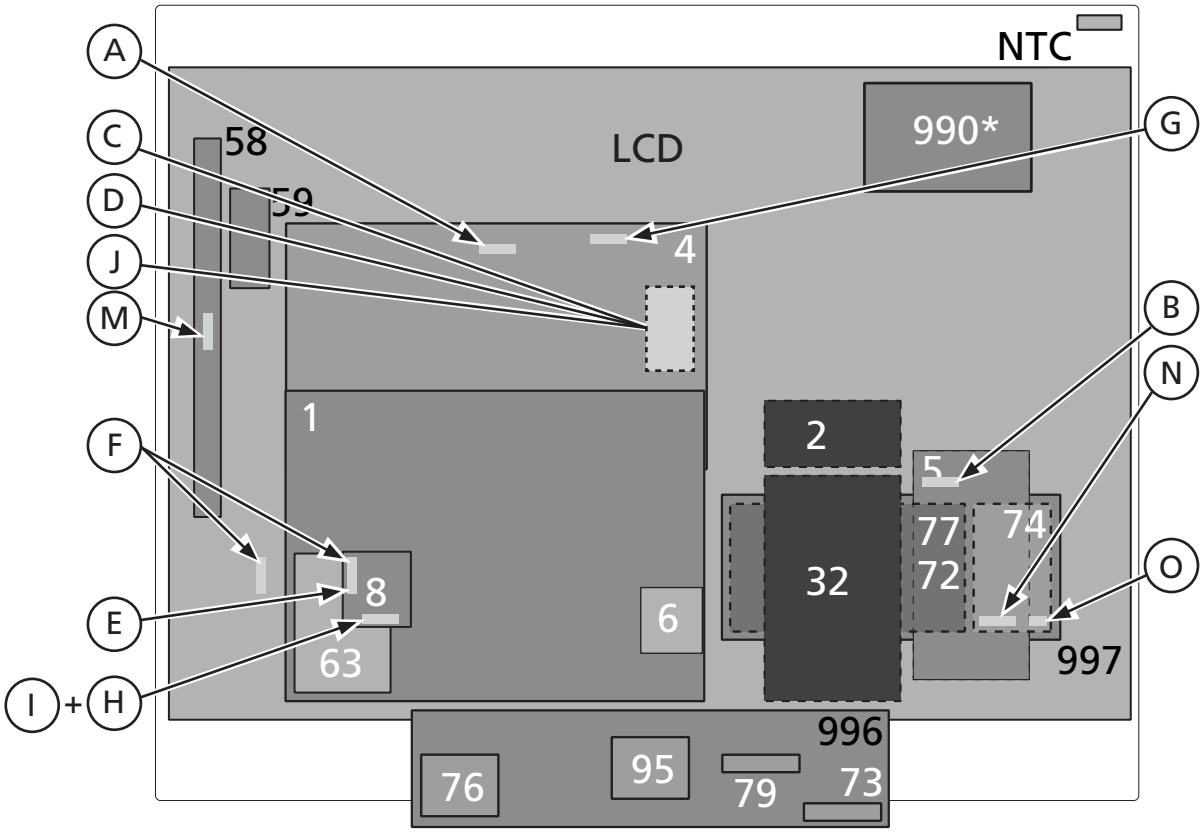
Fault flow chart

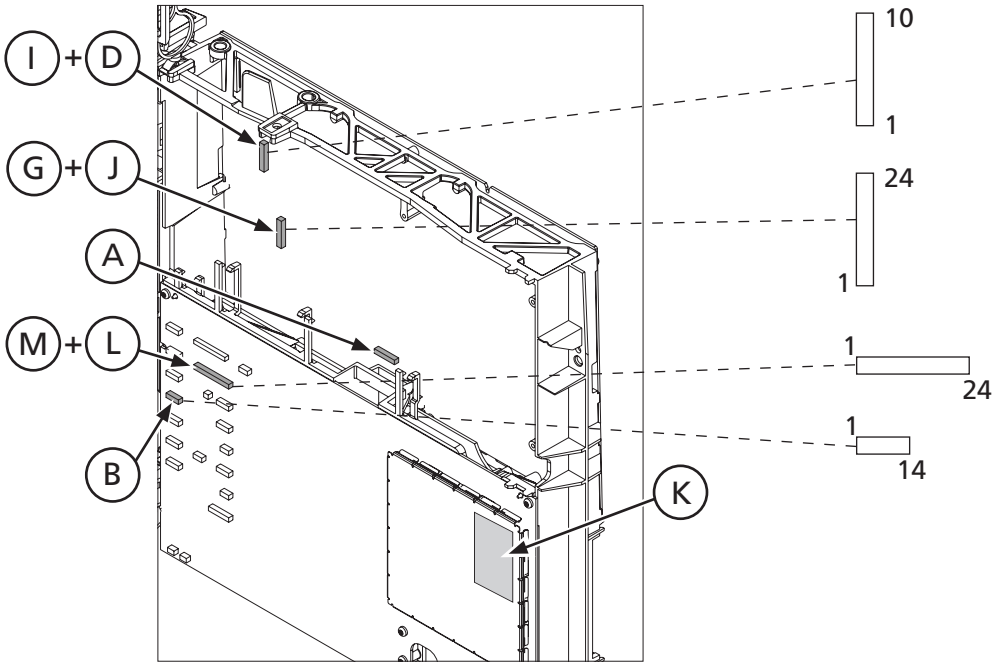
Overall block survey

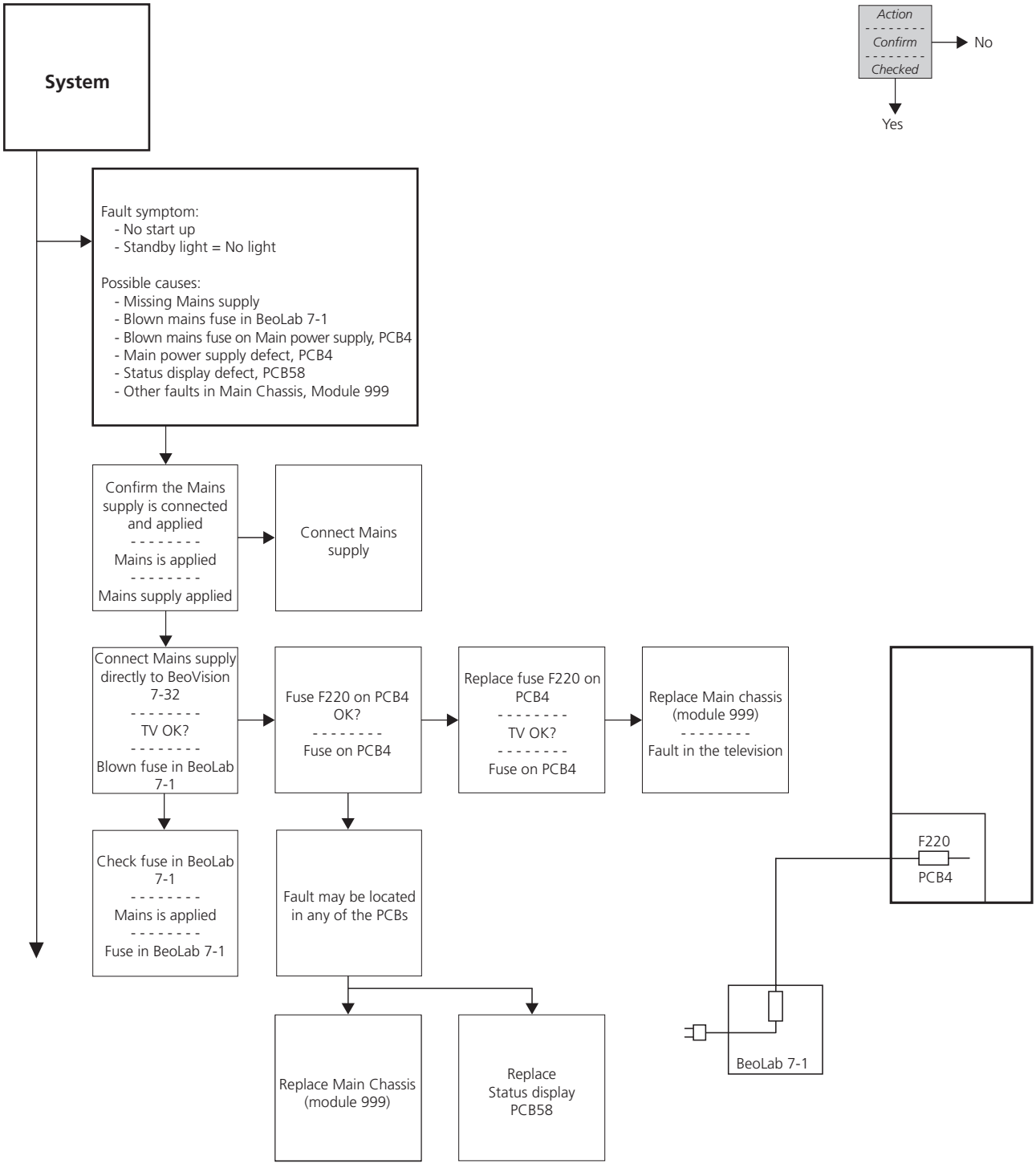


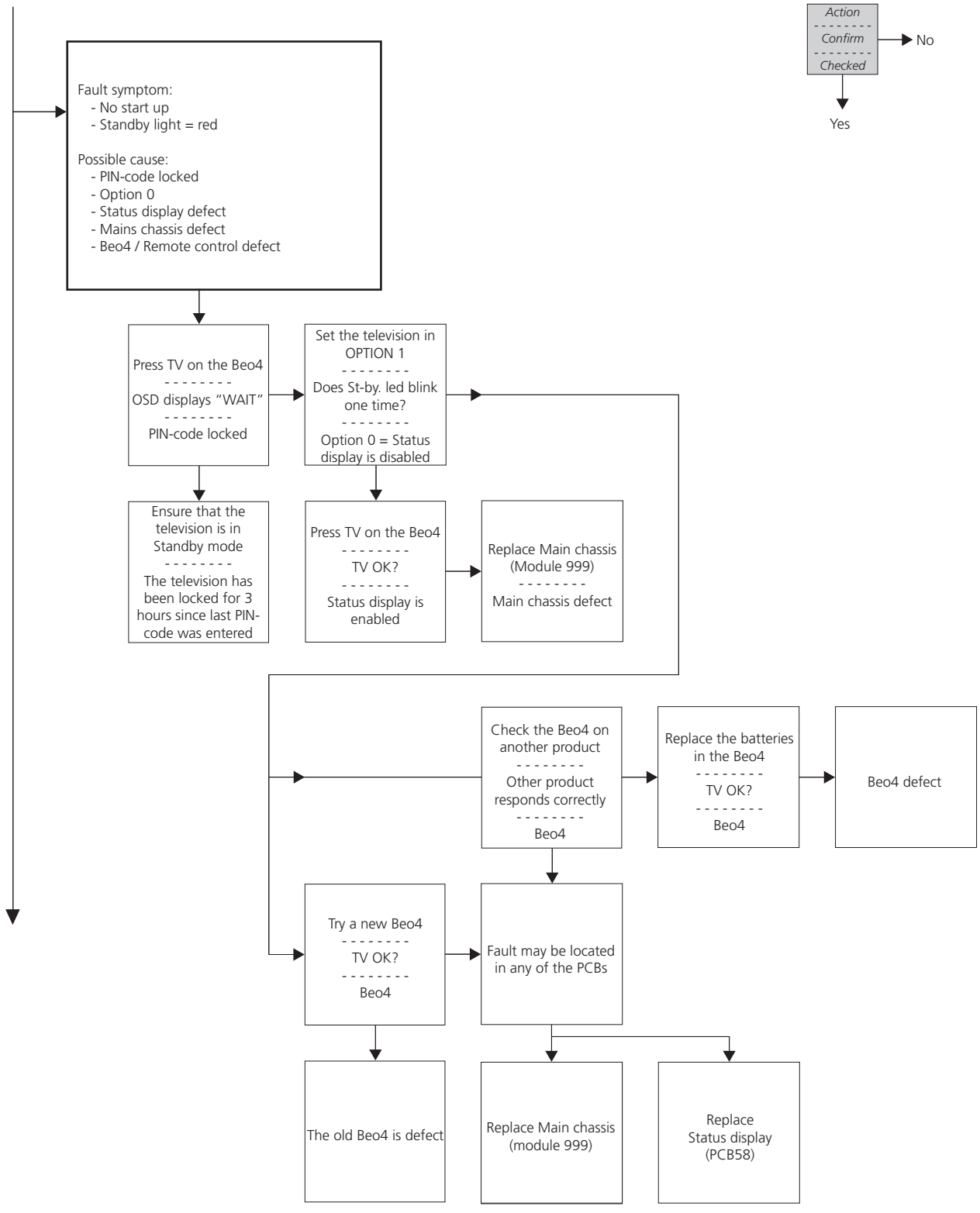
Placement of measuringpoints

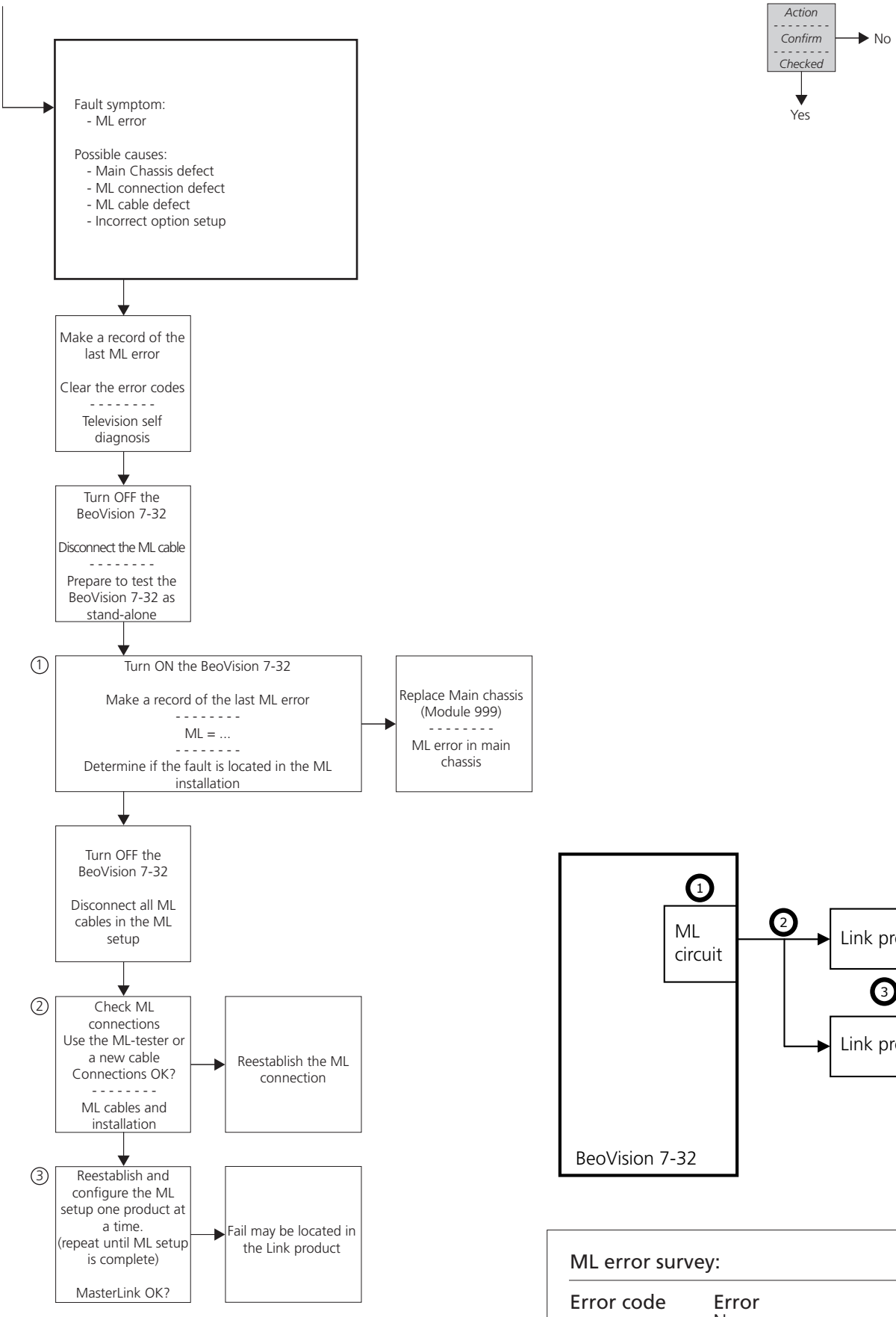
A. F220, PCB4
B. W20 (1P7 - 5P119)
C. FP41, 42, 43, 44, PCB4
D. 4P116, PCB4
E. 8P1, PCB8
F. W7 (8P1 - LCD)
G. W5 (5P140 - LCD)
H. 8P2, PCB8
I. W6 (8P2 - 4P116)
J. P167, PCB4
K. Label with Adjustment values
L. P9, PCB1
M. W15 (1P9 - 58P141)
N. 74P103, PCB74
O. 74P114, PCB74





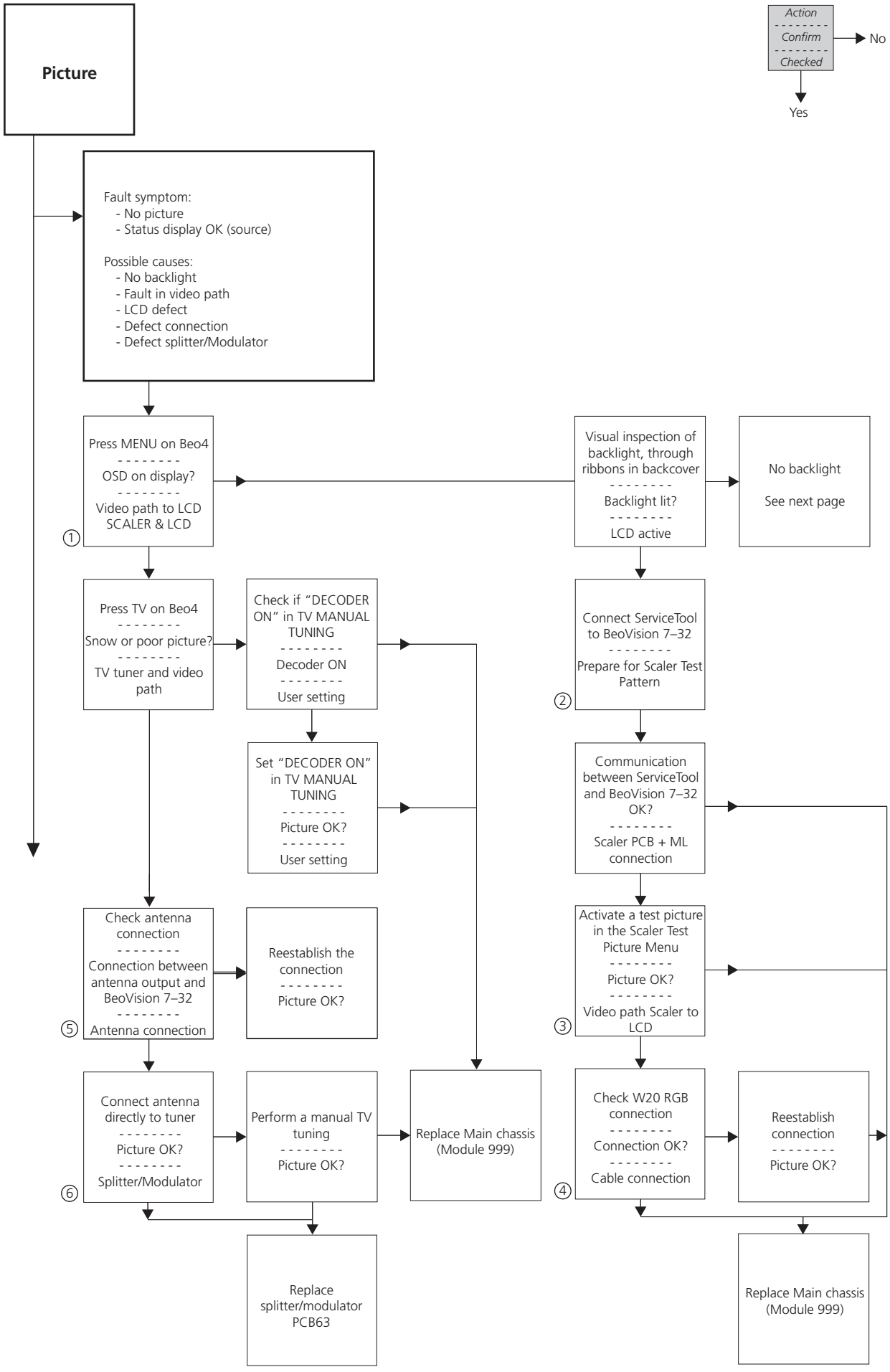

System
Action
Confirm
Checked
No
Yes
Fault symptom:
- No start up
- Standby light = No light
Possible causes:
- Missing Mains supply
- Blown mains fuse in BeoLab 7-1
- Blown mains fuse on Main power supply, PCB4
- Main power supply defect, PCB4
- Status display defect, PCB58
- Other faults in Main Chassis, Module 999
Confirm the Mains supply is connected and applied
Mains is applied
Mains supply applied
Connect Mains supply
Connect Mains supply directly to BeoVision 7-32
TV OK?
Blown fuse in BeoLab 7-1
Fuse F220 on PCB4 OK?
Fuse on PCB4
Replace fuse F220 on PCB4
TV OK?
Fuse on PCB4
Replace Main chassis (module 999)
Fault in the television
Check fuse in BeoLab 7-1
Mains is applied
Fuse in BeoLab 7-1
Fault may be located in any of the PCBs
Replace Main Chassis (module 999)
Replace Status display PCB58
F220
PCB4
BeoLab 7-1

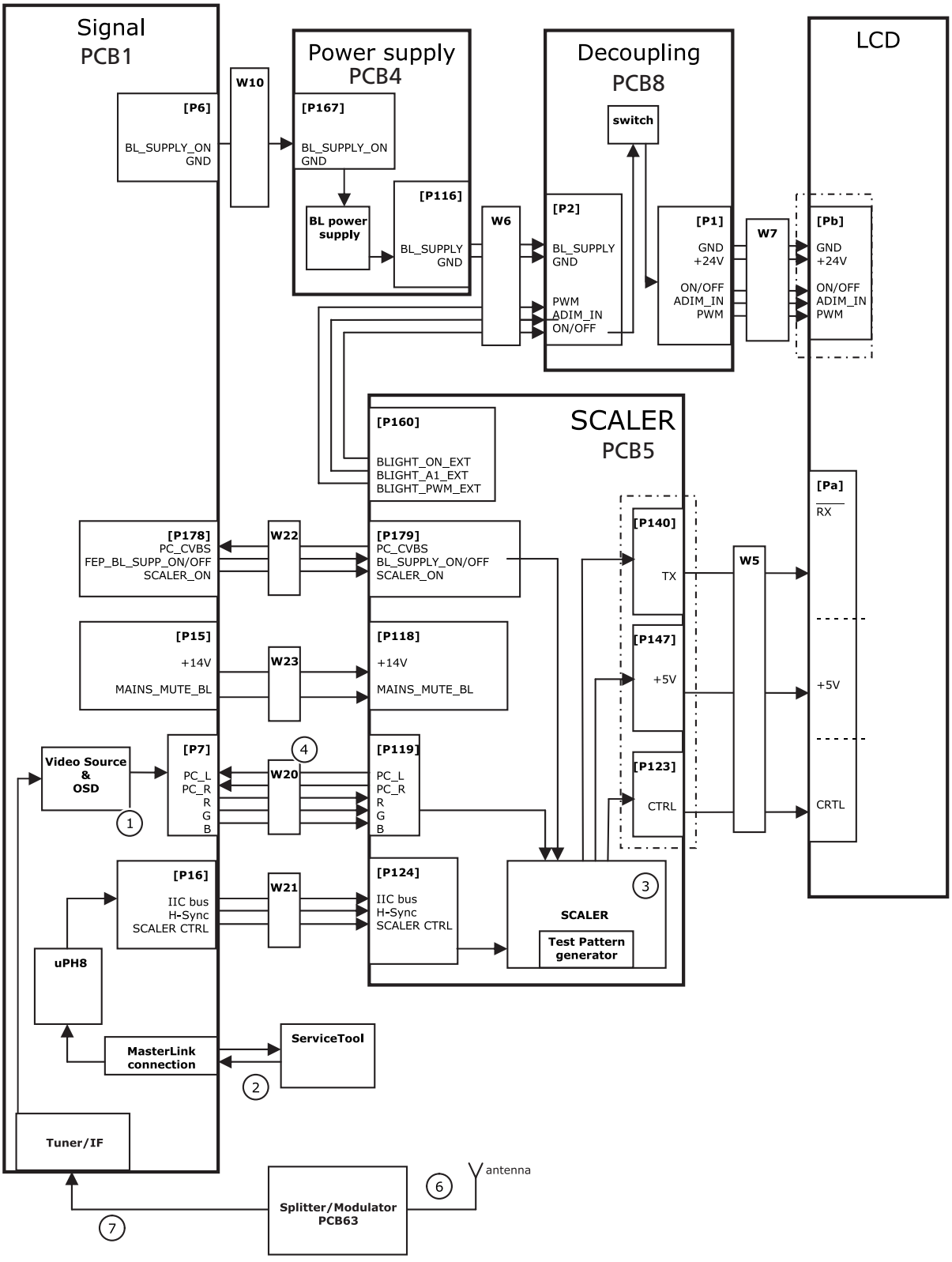

Action
Confirm
Checked
No
Yes
Fault symptom:
- No start up
- Standby light = red
Possible cause:
- PIN-code locked
- Option 0
- Status display defect
- Mains chassis defect
- Beo4 / Remote control defect
Press TV on the Beo4
OSD displays "WAIT"
PIN-code locked
Set the television in OPTION 1
Does St-by. led blink one time?
Option 0 = Status display is disabled
Ensure that the television is in Standby mode
The television has been locked for 3 hours since last PIN-code was entered
Press TV on the Beo4
TV OK?
Status display is enabled
Replace Main chassis (Module 999)
Main chassis defect
Check the Beo4 on another product
Other product responds correctly
Beo4
Replace the batteries in the Beo4
TV OK?
Beo4
Beo4 defect
Try a new Beo4
TV OK?
Beo4
Fault may be located in any of the PCBs
The old Beo4 is defect
Replace Main chassis (module 999)
Replace Status display (PCB58)

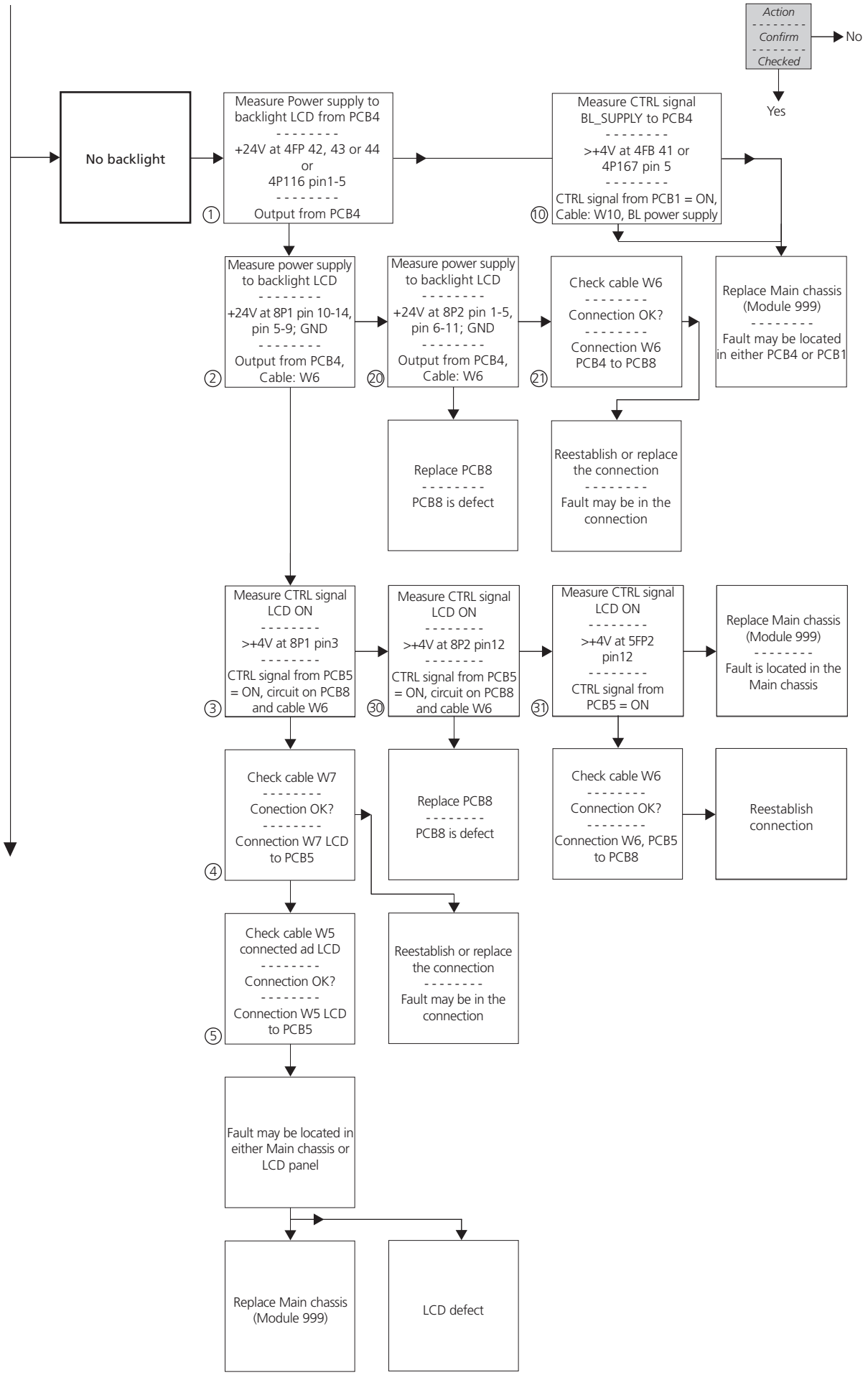


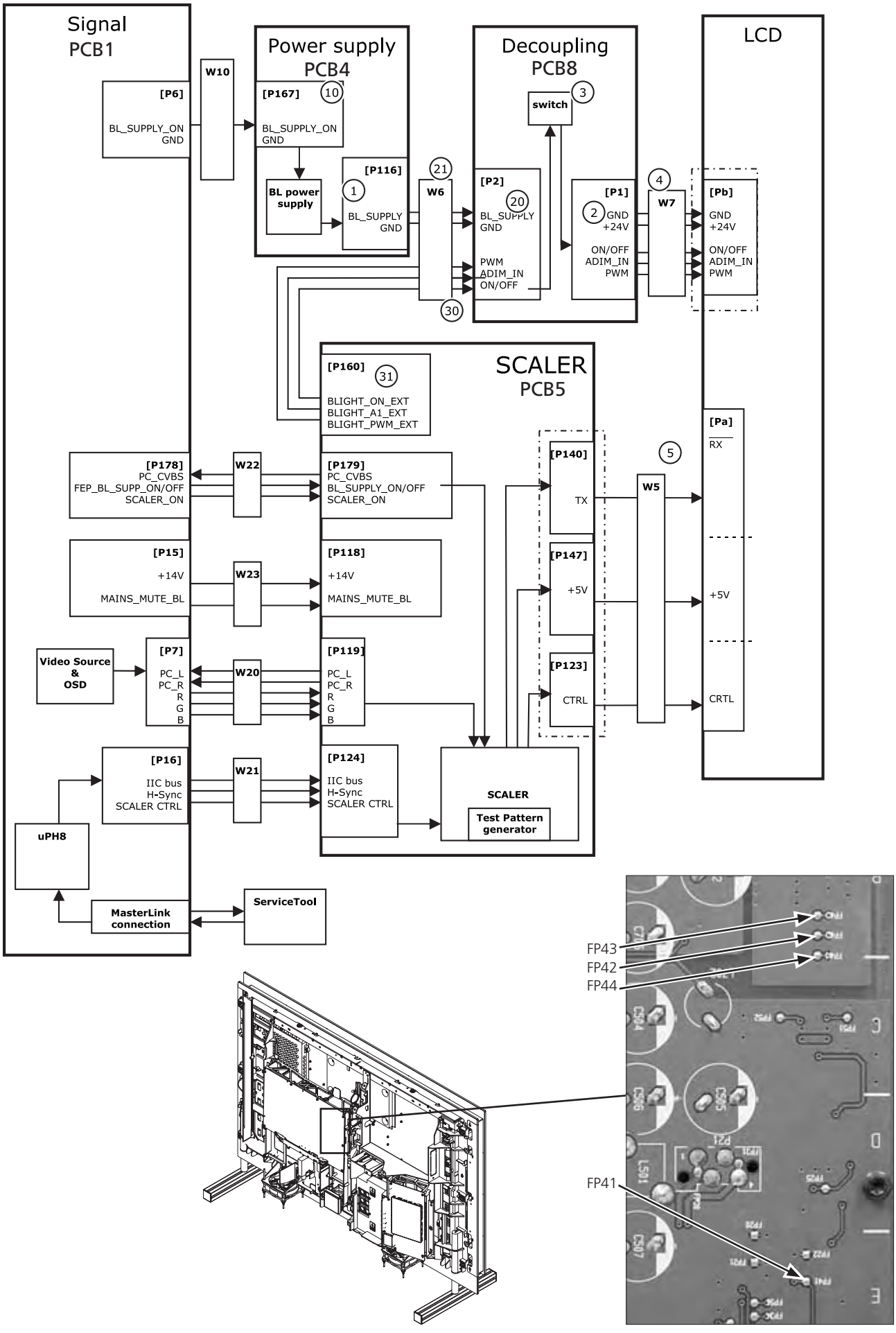
ML error survey:

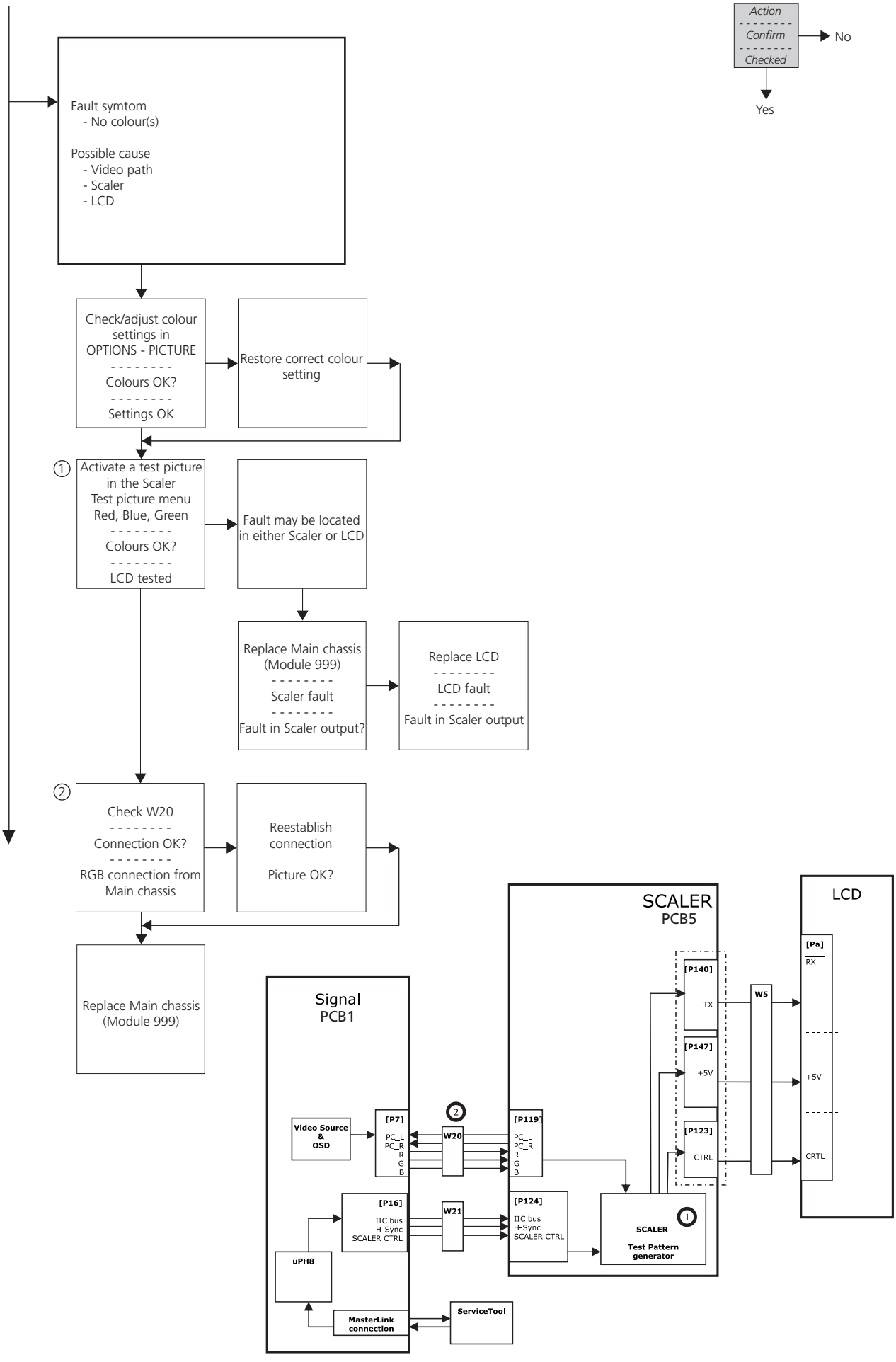
Error code	Error
...	No error
TU	ML pulled up
TD	ML pulled down
CI	Configuration impossible
??	Other error

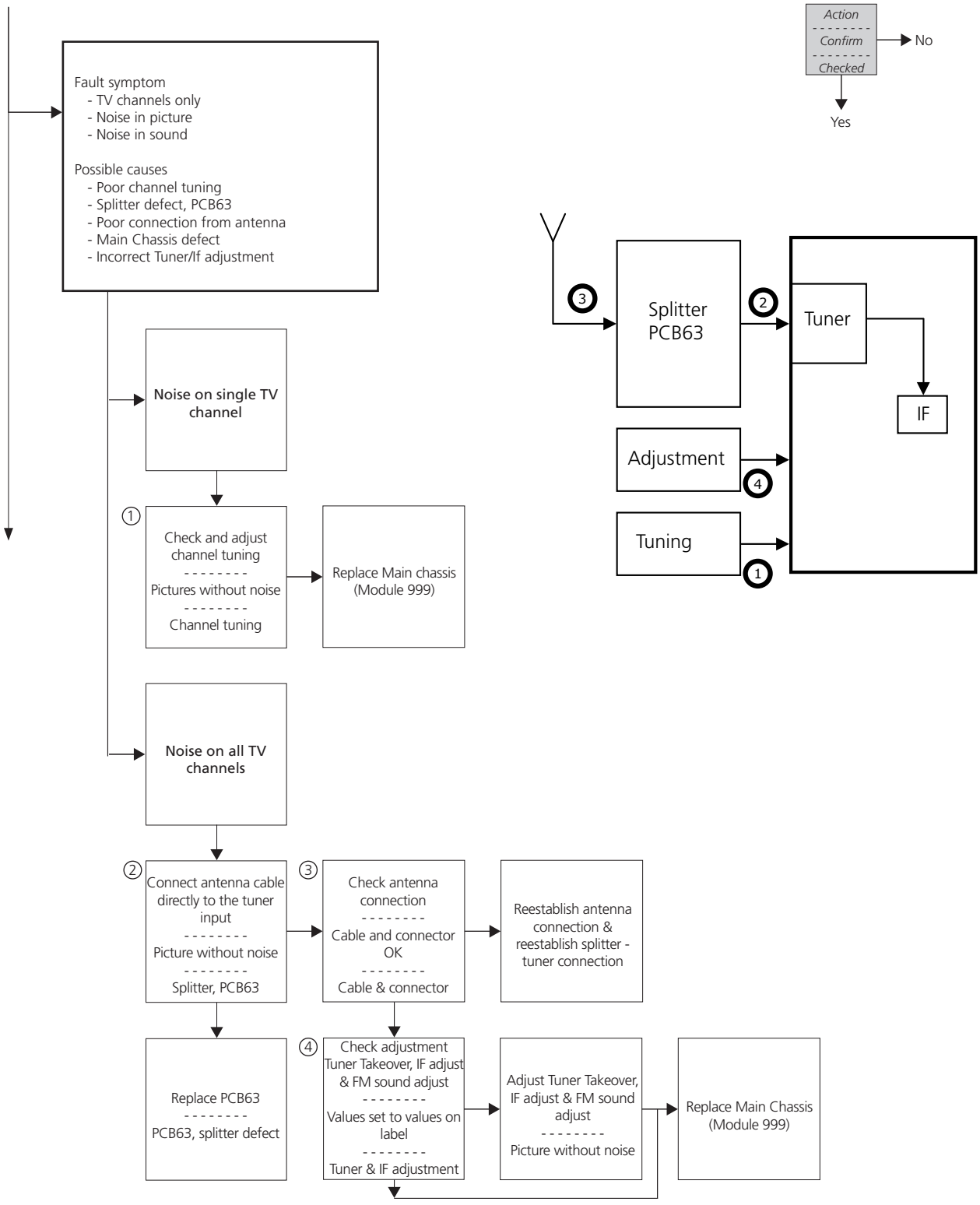

Picture
Action
Confirm
Checked
No
Yes
Fault symptom:
- No picture
- Status display OK (source)
Possible causes:
- No backlight
- Fault in video path
- LCD defect
- Defect connection
- Defect splitter/Modulator
Press MENU on Beo4
OSD on display?
Video path to LCD SCALER & LCD
①
Visual inspection of backlight, through ribbons in backcover
Backlight lit?
LCD active
No backlight
See next page
Press TV on Beo4
Snow or poor picture?
TV tuner and video path
Check if "DECODER ON" in TV MANUAL TUNING
Decoder ON
User setting
Set "DECODER ON" in TV MANUAL TUNING
Picture OK?
User setting
Connect ServiceTool to BeoVision 7–32
Prepare for Scaler Test Pattern
②
Communication between ServiceTool and BeoVision 7–32 OK?
Scaler PCB + ML connection
Check antenna connection
Connection between antenna output and BeoVision 7–32
Antenna connection
⑤
Reestablish the connection
Picture OK?
Activate a test picture in the Scaler Test Picture Menu
Picture OK?
Video path Scaler to LCD
③
Connect antenna directly to tuner
Picture OK?
Splitter/Modulator
⑥
Perform a manual TV tuning
Picture OK?
Replace Main chassis (Module 999)
Check W20 RGB connection
Connection OK?
Cable connection
④
Reestablish connection
Picture OK?
Replace splitter/modulator PCB63
Replace Main chassis (Module 999)

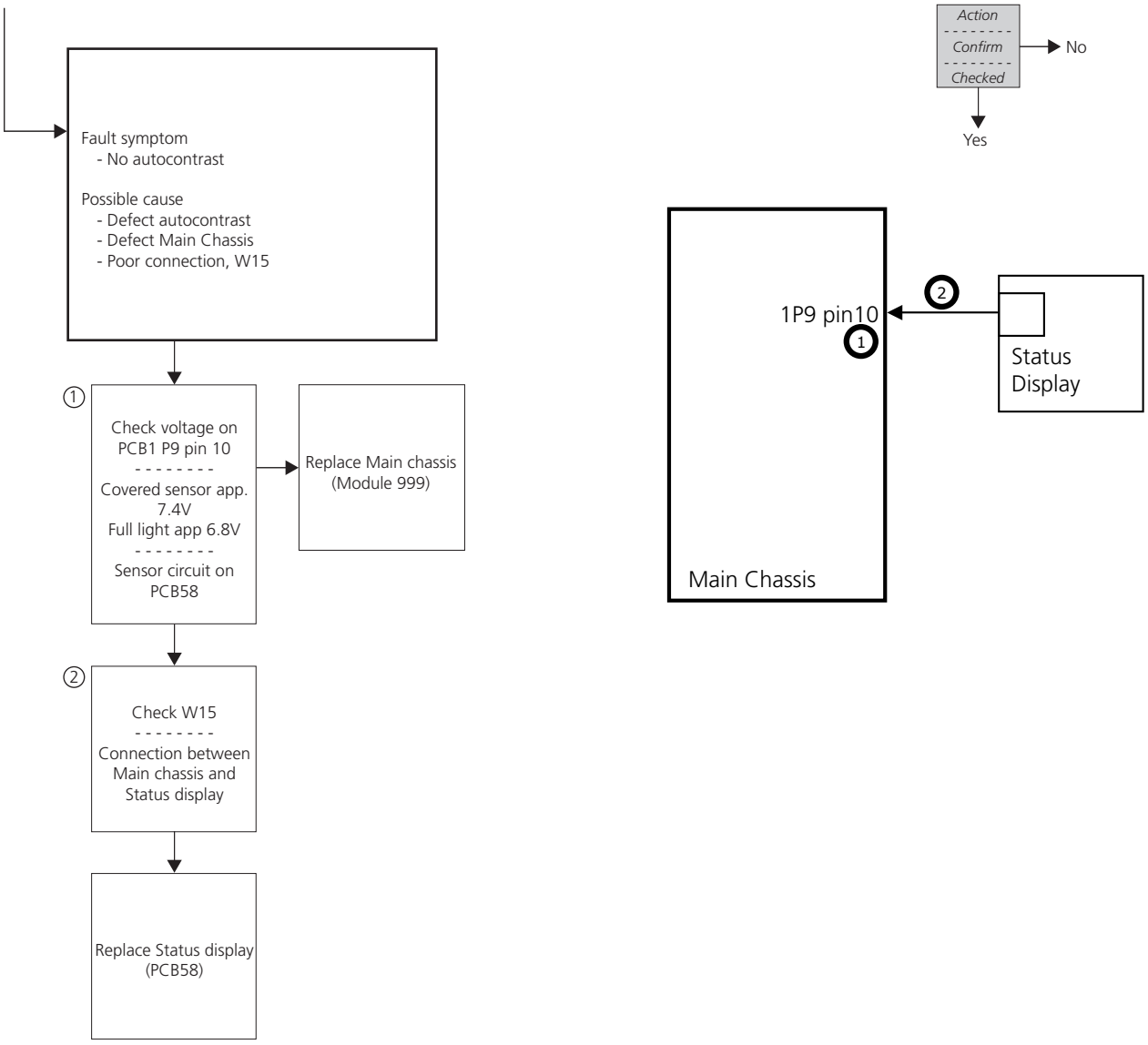

Signal
PCB1
[P6]
BL_SUPPLY_ON
GND
W10
Power supply
PCB4
[P167]
BL_SUPPLY_ON
GND
BL power supply
[P116]
BL_SUPPLY
GND
W6
Decoupling
PCB8
switch
[P2]
BL_SUPPLY
GND
PWM
ADIM_IN
ON/OFF
[P1]
GND
+24V
ON/OFF
ADIM_IN
PWM
W7
LCD
[Pb]
GND
+24V
ON/OFF
ADIM_IN
PWM
SCALER
PCB5
[P160]
BLIGHT_ON_EXT
BLIGHT_A1_EXT
BLIGHT_PWM_EXT
[P178]
PC_CVBS
FEP_BL_SUPP_ON/OFF
SCALER_ON
W22
[P179]
PC_CVBS
BL_SUPPLY_ON/OFF
SCALER_ON
[P15]
+14V
MAINS_MUTE_BL
W23
[P118]
+14V
MAINS_MUTE_BL
[P140]
TX
[P147]
+5V
[P123]
CTRL
W5
[Pa]
RX
+5V
CRTL
Video Source & OSD
1
[P7]
PC_L
PC_R
R
G
B
4
W20
[P119]
PC_L
PC_R
R
G
B
[P16]
IIC bus
H-Sync
SCALER CTRL
W21
[P124]
IIC bus
H-Sync
SCALER CTRL
3
SCALER
Test Pattern generator
uPH8
MasterLink connection
ServiceTool
2
Tuner/IF
Splitter/Modulator PCB63
6
antenna
7

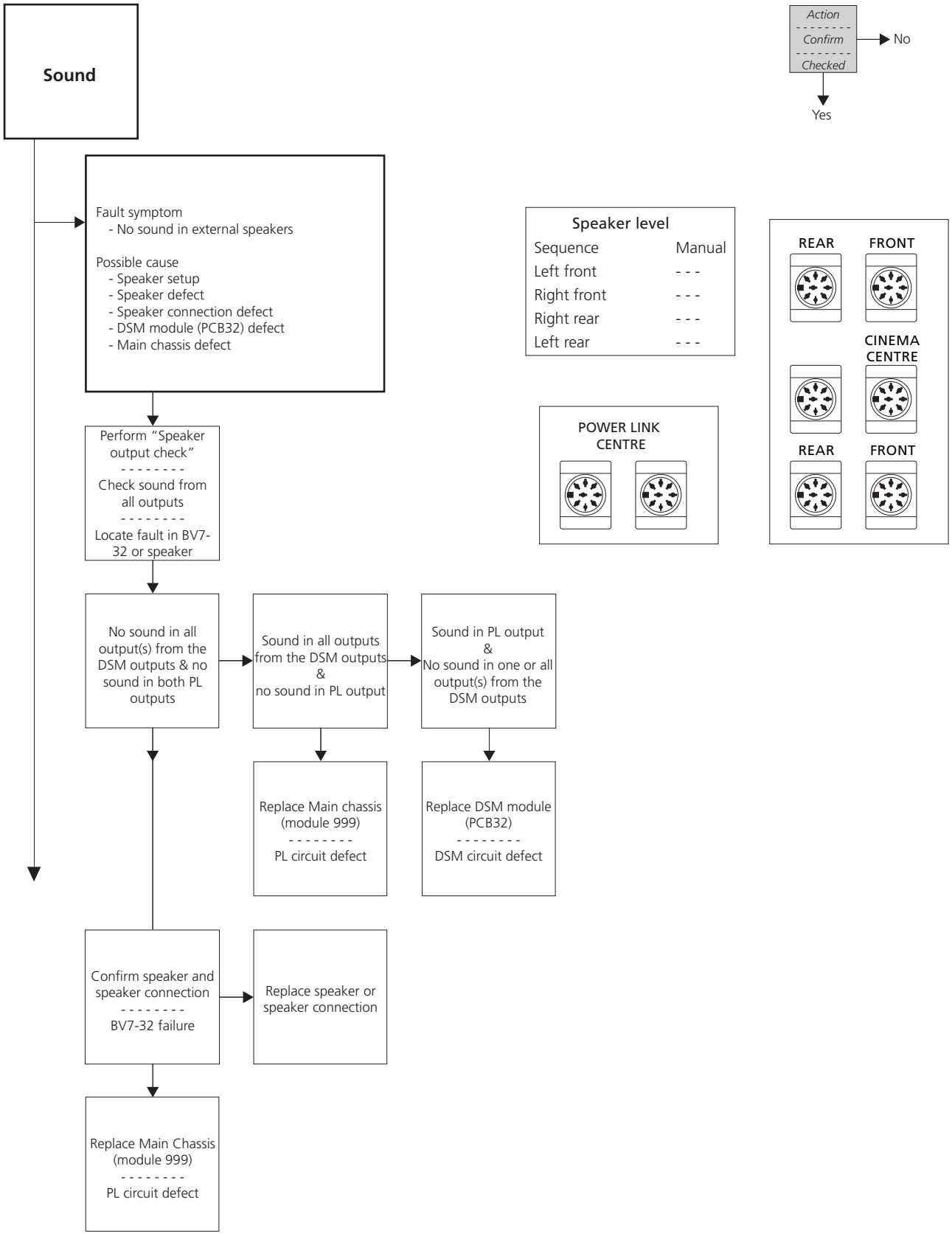

Action
Confirm
Checked
No
Yes
No backlight
Measure Power supply to backlight LCD from PCB4
+24V at 4FP 42, 43 or 44 or 4P116 pin1-5
Output from PCB4
1
Measure CTRL signal BL_SUPPLY to PCB4
>+4V at 4FB 41 or 4P167 pin 5
CTRL signal from PCB1 = ON, Cable: W10, BL power supply
10
Measure power supply to backlight LCD
+24V at 8P1 pin 10-14, pin 5-9; GND
Output from PCB4, Cable: W6
2
Measure power supply to backlight LCD
+24V at 8P2 pin 1-5, pin 6-11; GND
Output from PCB4, Cable: W6
20
Check cable W6
Connection OK?
Connection W6 PCB4 to PCB8
21
Replace Main chassis (Module 999)
Fault may be located in either PCB4 or PCB1
Replace PCB8
PCB8 is defect
Reestablish or replace the connection
Fault may be in the connection
Measure CTRL signal LCD ON
>+4V at 8P1 pin3
CTRL signal from PCB5 = ON, circuit on PCB8 and cable W6
3
Measure CTRL signal LCD ON
>+4V at 8P2 pin12
CTRL signal from PCB5 = ON, circuit on PCB8 and cable W6
30
Measure CTRL signal LCD ON
>+4V at 5FP2 pin12
CTRL signal from PCB5 = ON
31
Replace Main chassis (Module 999)
Fault is located in the Main chassis
Check cable W7
Conection OK?
Connection W7 LCD to PCB5
4
Replace PCB8
PCB8 is defect
Check cable W6
Connection OK?
Connection W6, PCB5 to PCB8
Reestablish connection
Check cable W5 connected ad LCD
Connection OK?
Connection W5 LCD to PCB5
5
Reestablish or replace the connection
Fault may be in the connection
Fault may be located in either Main chassis or LCD panel
Replace Main chassis (Module 999)
LCD defect

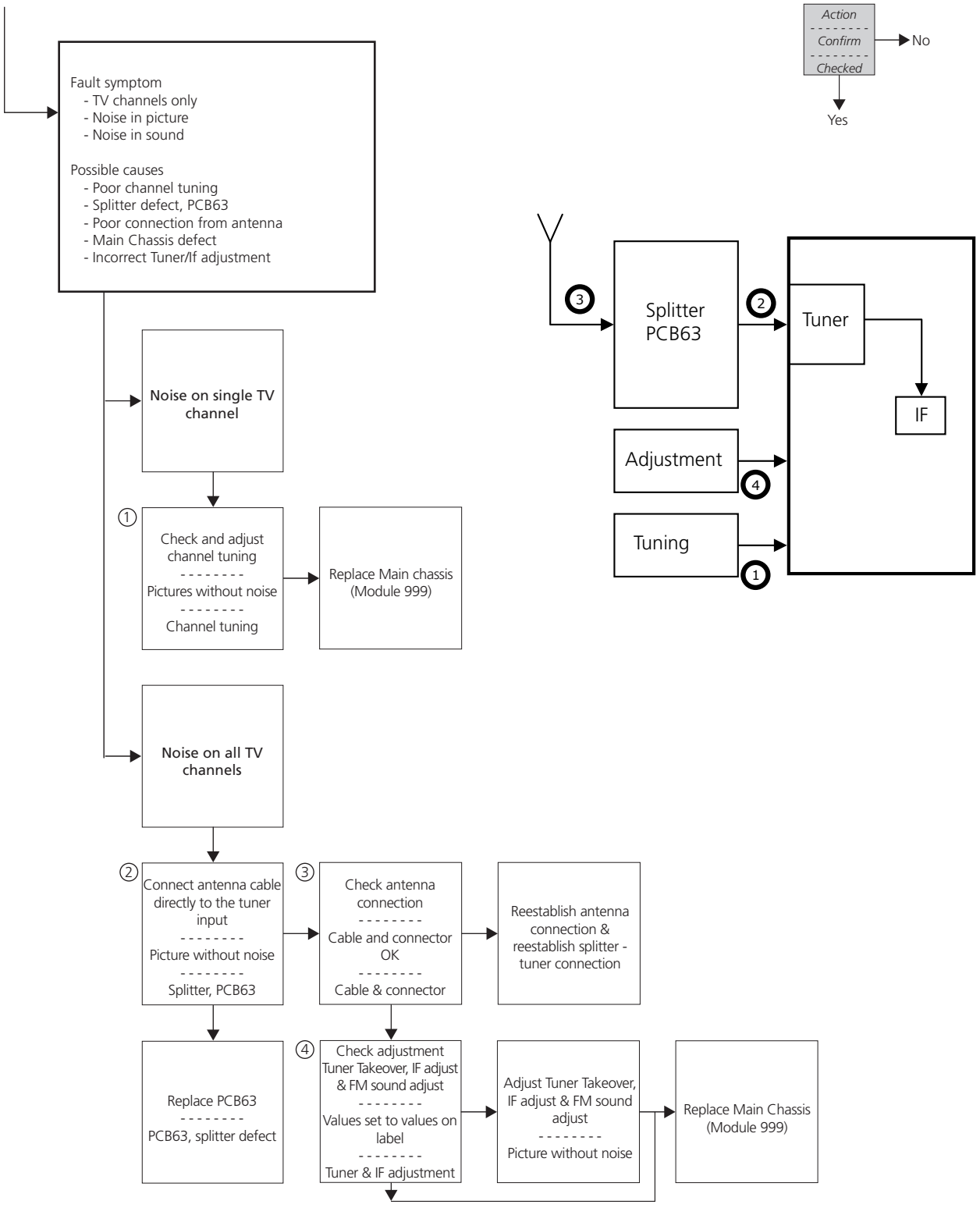

Signal
PCB1
[P6]
BL_SUPPLY_ON
GND
W10
Power supply
PCB4
[P167]
10
BL_SUPPLY_ON
GND
BL power supply
1
[P116]
BL_SUPPLY
GND
21
W6
30
Decoupling
PCB8
switch
3
[P2]
20
BL_SUPPLY
GND
PWM
ADIM_IN
ON/OFF
[P1]
2
GND
+24V
ON/OFF
ADIM_IN
PWM
4
W7
LCD
[Pb]
GND
+24V
ON/OFF
ADIM_IN
PWM
SCALER
PCB5
[P160]
31
BLIGHT_ON_EXT
BLIGHT_A1_EXT
BLIGHT_PWM_EXT
[P178]
PC_CVBS
FEP_BL_SUPP_ON/OFF
SCALER_ON
W22
[P179]
PC_CVBS
BL_SUPPLY_ON/OFF
SCALER_ON
[P140]
TX
5
W5
[Pa]
RX
[P15]
+14V
MAINS_MUTE_BL
W23
[P118]
+14V
MAINS_MUTE_BL
[P147]
+5V
+5V
Video Source
&
OSD
[P7]
PC_L
PC_R
R
G
B
W20
[P119]
PC_L
PC_R
R
G
B
[P123]
CTRL
CRTL
[P16]
IIC bus
H-Sync
SCALER CTRL
W21
[P124]
IIC bus
H-Sync
SCALER CTRL
SCALER
Test Pattern
generator
uPH8
MasterLink
connection
ServiceTool
FP43
FP42
FP44
FP41

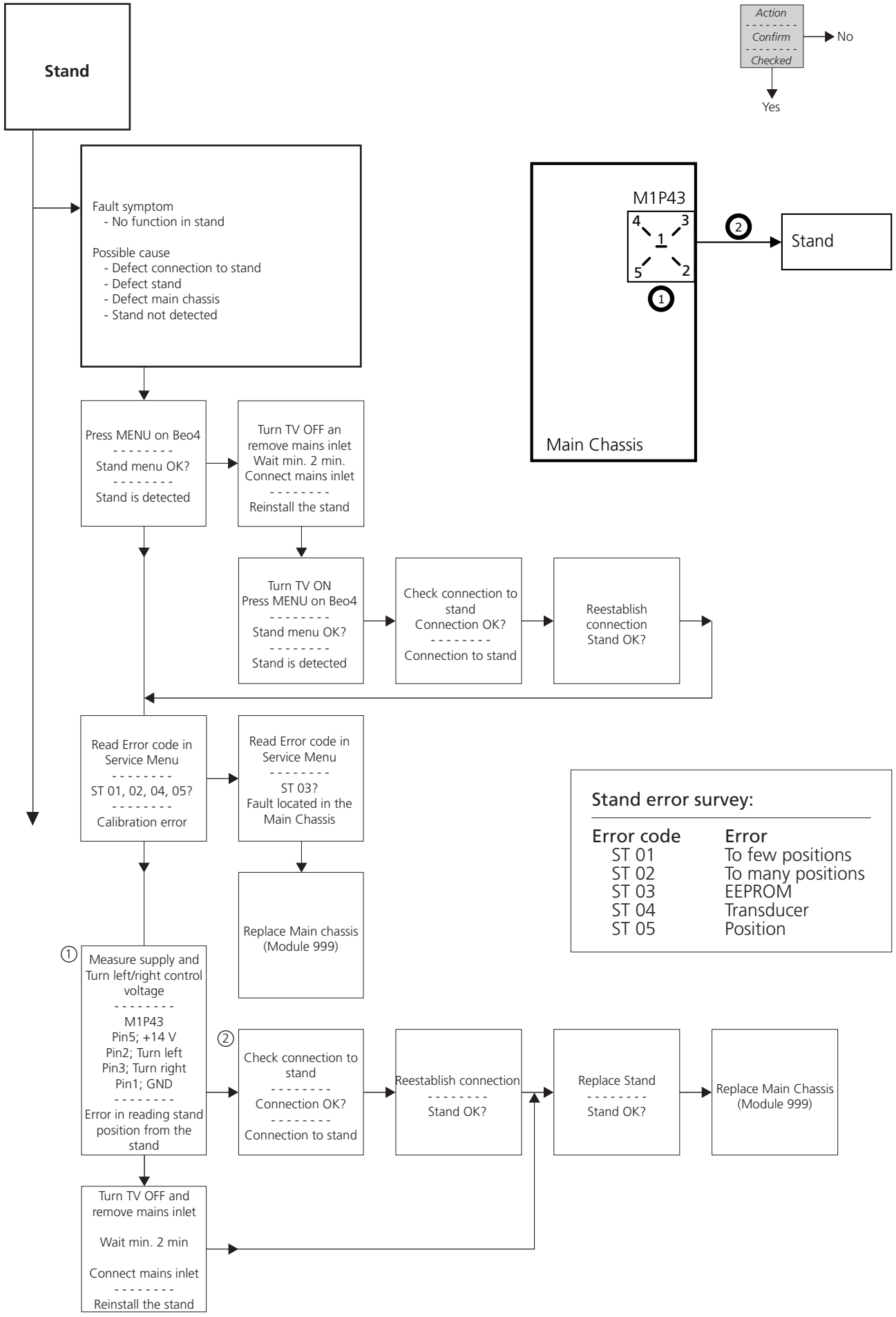

Action
Confirm
Checked
No
Yes
Fault symtom
- No colour(s)
Possible cause
- Video path
- Scaler
- LCD
Check/adjust colour settings in OPTIONS - PICTURE
Colours OK?
Settings OK
Restore correct colour setting
1
Activate a test picture in the Scaler
Test picture menu
Red, Blue, Green
Colours OK?
LCD tested
Fault may be located in either Scaler or LCD
Replace Main chassis (Module 999)
Scaler fault
Fault in Scaler output?
Replace LCD
LCD fault
Fault in Scaler output
2
Check W20
Connection OK?
RGB connection from Main chassis
Reestablish connection
Picture OK?
Replace Main chassis (Module 999)
SCALER
PCB5
LCD
Signal
PCB1
[Pa]
RX
[P140]
TX
[P147]
+5V
[P123]
CTRL
W5
+5V
CRTL
Video Source & OSD
[P7]
PC_L
PC_R
R
G
B
W20
[P119]
PC_L
PC_R
R
G
B
[P16]
IIC bus
H-Sync
SCALER CTRL
W21
[P124]
IIC bus
H-Sync
SCALER CTRL
SCALER
Test Pattern generator
uPH8
MasterLink connection
ServiceTool

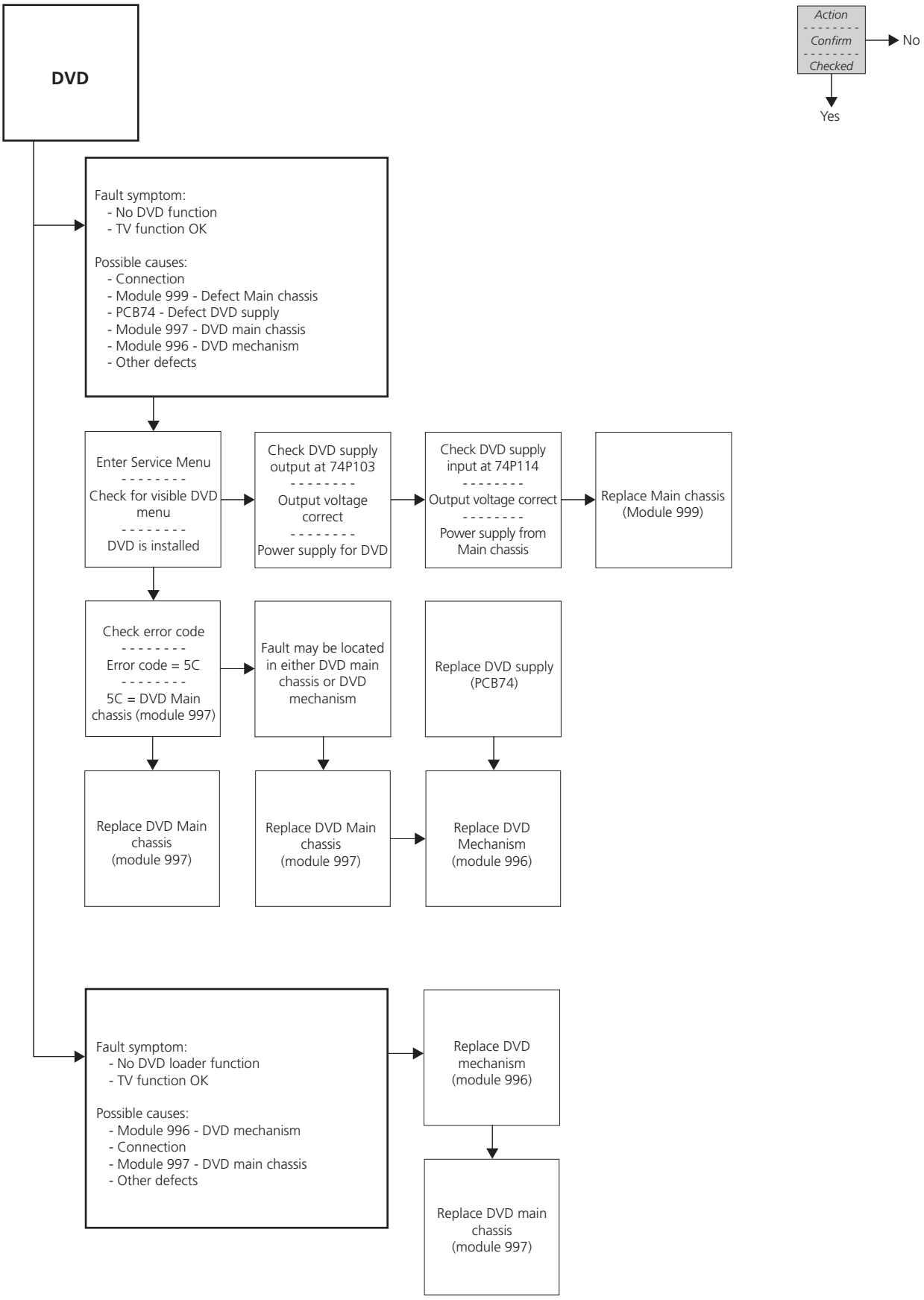

Action
Confirm
Checked
No
Yes
Fault symptom
- TV channels only
- Noise in picture
- Noise in sound
Possible causes
- Poor channel tuning
- Splitter defect, PCB63
- Poor connection from antenna
- Main Chassis defect
- Incorrect Tuner/If adjustment
Splitter PCB63
Tuner
IF
Adjustment
Tuning
Noise on single TV channel
Check and adjust channel tuning
Pictures without noise
Channel tuning
Replace Main chassis (Module 999)
Noise on all TV channels
Connect antenna cable directly to the tuner input
Picture without noise
Splitter, PCB63
Check antenna connection
Cable and connector OK
Cable & connector
Reestablish antenna connection & reestablish splitter - tuner connection
Replace PCB63
PCB63, splitter defect
Check adjustment Tuner Takeover, IF adjust & FM sound adjust
Values set to values on label
Tuner & IF adjustment
Adjust Tuner Takeover, IF adjust & FM sound adjust
Picture without noise
Replace Main Chassis (Module 999)


Fault symptom
- No autocontrast
Possible cause
- Defect autocontrast
- Defect Main Chassis
- Poor connection, W15
①
Check voltage on PCB1 P9 pin 10
- - - - - - - -
Covered sensor app. 7.4V
Full light app 6.8V
- - - - - - - -
Sensor circuit on PCB58
Replace Main chassis (Module 999)
②
Check W15
- - - - - - - -
Connection between Main chassis and Status display
Replace Status display (PCB58)
Action
- - - - - - - -
Confirm
- - - - - - - -
Checked
No
Yes
1P9 pin10
2
1
Status Display
Main Chassis

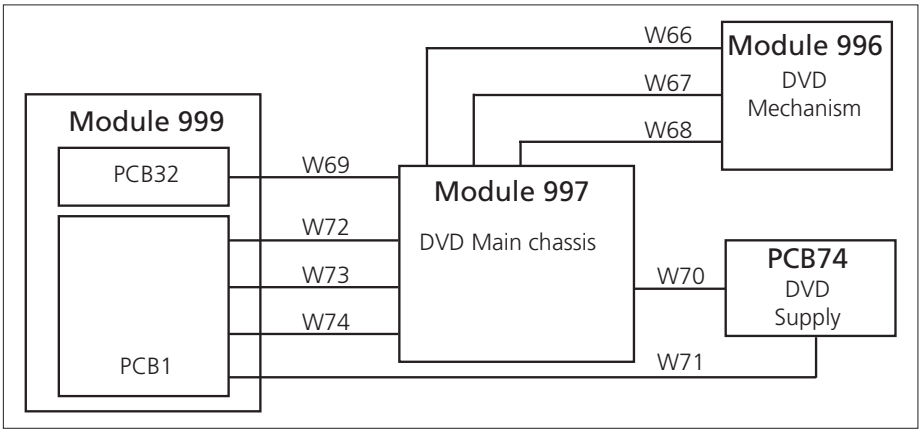

Sound
Action
Confirm
Checked
No
Yes
Fault symptom
- No sound in external speakers
Possible cause
- Speaker setup
- Speaker defect
- Speaker connection defect
- DSM module (PCB32) defect
- Main chassis defect
Speaker level
Sequence Manual
Left front - - -
Right front - - -
Right rear - - -
Left rear - - -
REAR
FRONT
CINEMA CENTRE
REAR
FRONT
POWER LINK CENTRE
Perform "Speaker output check"
Check sound from all outputs
Locate fault in BV7-32 or speaker
No sound in all output(s) from the DSM outputs & no sound in both PL outputs
Sound in all outputs from the DSM outputs & no sound in PL output
Sound in PL output & No sound in one or all output(s) from the DSM outputs
Replace Main chassis (module 999)
PL circuit defect
Replace DSM module (PCB32)
DSM circuit defect
Confirm speaker and speaker connection
BV7-32 failure
Replace speaker or speaker connection
Replace Main Chassis (module 999)
PL circuit defect


Action
Confirm
Checked
No
Yes
Fault symptom
- TV channels only
- Noise in picture
- Noise in sound
Possible causes
- Poor channel tuning
- Splitter defect, PCB63
- Poor connection from antenna
- Main Chassis defect
- Incorrect Tuner/If adjustment
Splitter PCB63
Tuner
IF
Adjustment
Tuning
Noise on single TV channel
Check and adjust channel tuning
Pictures without noise
Channel tuning
Replace Main chassis (Module 999)
Noise on all TV channels
Connect antenna cable directly to the tuner input
Picture without noise
Splitter, PCB63
Check antenna connection
Cable and connector OK
Cable & connector
Reestablish antenna connection & reestablish splitter - tuner connection
Replace PCB63
PCB63, splitter defect
Check adjustment Tuner Takeover, IF adjust & FM sound adjust
Values set to values on label
Tuner & IF adjustment
Adjust Tuner Takeover, IF adjust & FM sound adjust
Picture without noise
Replace Main Chassis (Module 999)


Stand
Action
Confirm
Checked
No
Yes
Fault symptom
- No function in stand
Possible cause
- Defect connection to stand
- Defect stand
- Defect main chassis
- Stand not detected
M1P43
4
3
1
5
2
2
1
Stand
Main Chassis
Press MENU on Beo4
Stand menu OK?
Stand is detected
Turn TV OFF an remove mains inlet
Wait min. 2 min.
Connect mains inlet
Reinstall the stand
Turn TV ON
Press MENU on Beo4
Stand menu OK?
Stand is detected
Check connection to stand
Connection OK?
Connection to stand
Reestablish connection
Stand OK?
Read Error code in Service Menu
ST 01, 02, 04, 05?
Calibration error
Read Error code in Service Menu
ST 03?
Fault located in the Main Chassis
Replace Main chassis (Module 999)
Stand error survey:
Error code
Error
ST 01
To few positions
ST 02
To many positions
ST 03
EEPROM
ST 04
Transducer
ST 05
Position
1
Measure supply and Turn left/right control voltage
M1P43
Pin5; +14 V
Pin2; Turn left
Pin3; Turn right
Pin1; GND
Error in reading stand position from the stand
2
Check connection to stand
Connection OK?
Connection to stand
Reestablish connection
Stand OK?
Replace Stand
Stand OK?
Replace Main Chassis (Module 999)
Turn TV OFF and remove mains inlet
Wait min. 2 min
Connect mains inlet
Reinstall the stand


DVD
Action
Confirm
Checked
No
Yes
Fault symptom:
- No DVD function
- TV function OK
Possible causes:
- Connection
- Module 999 - Defect Main chassis
- PCB74 - Defect DVD supply
- Module 997 - DVD main chassis
- Module 996 - DVD mechanism
- Other defects
Enter Service Menu
Check for visible DVD menu
DVD is installed
Check DVD supply output at 74P103
Output voltage correct
Power supply for DVD
Check DVD supply input at 74P114
Output voltage correct
Power supply from Main chassis
Replace Main chassis (Module 999)
Check error code
Error code = 5C
5C = DVD Main chassis (module 997)
Fault may be located in either DVD main chassis or DVD mechanism
Replace DVD supply (PCB74)
Replace DVD Main chassis (module 997)
Replace DVD Main chassis (module 997)
Replace DVD Mechanism (module 996)
Fault symptom:
- No DVD loader function
- TV function OK
Possible causes:
- Module 996 - DVD mechanism
- Connection
- Module 997 - DVD main chassis
- Other defects
Replace DVD mechanism (module 996)
Replace DVD main chassis (module 997)

Cable	Connector	Connection	
W66	72P502	DVD Main chassis <-> DVD Mechanism Module 997 Module 996	73P507
W67	72P505	DVD Main chassis <-> DVD Mechanism Module 997 Module 996	73P520
W68	72P504	DVD Main chassis <-> DVD Mechanism Module 997 Module 996	73P521
W70	72P500	DVD Main chassis <-> DVD Supply Module 997 PCB74 Voltage supply from DVD Supply	74P103
	2	12V	2
	4	5V	4
	6	3.3V	6
	8	3.5V	8
	12	2.5V	12
	16	6V	16
	17	6V	17
	18	-5V	18
	21	+14V	21
	23	+14V	23
W74	72P502	DVD Main chassis <-> Main chassis Module 997 Module 999	1P104
	3	CVBS	3
	1	FB	1
	5	B	5
	7	G	7
	9	R	9
W73	72P501	DVD Main chassis <-> Main chassis Module 997 Module 999	1P105
	1	"DVD Reset" command to DVD Main chassis	1
	2	IIC bus	2
	5	5V sense	5
	6	DVD_IRQ	6
W72	72P503	DVD Main chassis <-> Main chassis Module 997 Module 999	1P156
	2	Sound right	2
	4	Sound left	4
W69	72P507	DVD Main chassis <-> PCB32, DSM Module 997 PCB32	32P411
W71	74P114	PCB74, DVD Supply <-> Main chassis PCB74 Module 999	1P114
	2	+14V	2
	4	+14V	4
	6	+14V	6
	8	"DVD ON" command from DVD SMPS	8



Adjustments

Adjustments described

Stand adjustment (if motorised stand connected).
Tuner take over, IF adjustment & FM sound adjustment.
Geometry check.
Picture check.
Sound adjustment, no adjustment possible.

Purpose of adjustments

The content in the adjustment instructions are the following:

- Contains text and illustrations if needed.
- The correct sequence for adjusting the product.
- The correct procedure for the adjustment.

Illustrations of:

- Geometry measuring points

General considerations

Correct adjustment of all parameters can only be obtained by using special test signals and equipment for light measurement.

Factory settings will give the best result.

Customer picture set up, Brilliance, contrast and colour are obtained in the TV SETUP – OPTIONS – PICTURE.

The LCD display must be at normal operating temperature before the results of the check and adjustments are reliable.
The warm up time is minimum 20 minutes.

Test signal is applied to the V.TAPE input on the SCART connector, unless other is specified.

Picture adjustments

Brightness, contrast and colour can only be adjusted in the MENU – OPTIONS – PICTURE.

The SERVICE MENU does not give this opportunity.

Preparations before check and adjustment

Switch on the TV.

Adjust the back light to full scale output.
Enter "SCALER MENU 1".
Make a note of the value "CONTRAST".
Adjust "CONTRAST" to 100.

Let the TV warm up for minimum 20 minutes.

Adjust the back light to normal output.
Enter "SCALER MENU 1".
Adjust "CONTRAST" to the value noted in step 2.

Select the correct test picture.

Set the TV in the correct FORMAT.

It is recommended to use the ServiceTool to down load the settings

Adjustment sequence:

1. Tuner take over, IF adjust and FM Sound adjust.
2. Stand, if connected.
3. Geometry check and adjustment if necessary.
4. Picture check and adjustment if necessary.

Access to Service Mode

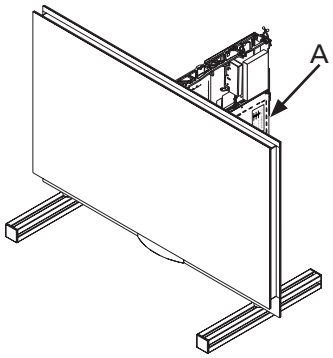
Select a SETUP menu.
Beo4: Press **0 0 GO** within 3 seconds.

Select ordinary menu operation to leave Service Mode.

Operation in Service Mode.

Beo4	Activity
EXIT	Removes the menus
GO	- Selects the sub menu to the menu line where the cursor is placed - Stores the selected values and returns to the SERVICE MENU - Deletes error codes in the MONITOR INFORMATION menu and returns to the SERVICE MENU
▲	Moves the cursor up and returns to the previous menu
▼	Moves the cursor down and selects a sub menu in special occasions
◀◀ ▶▶	Selects new values in the menus and selects a sub menu in special occasions

Adjust Tuner takeover, IF adjust and FM sound adjust



- The values (A) written on the label placed on PCB1, have to be written into the EEPROM (6IC6).

- Enter SETUP, select SERVICEMODE with **0**, **0**, **GO**.
  Press the button combination within 3 seconds.
  Highlight TV-TUNER, select with **GO**. Change the settings by means of ◀◀ and ▶▶ until they match the values on the label.
  Then press **GO** to store the settings.

  Exit Service Mode.

Stand (Only TV with motorised stand)

The scope of this adjustment is to determine the center position.
The adjustment must be performed in the following situations:

- the motorised stand is connected to the television.
- the main chassis has been replaced.
- the EEPROM (6IC6) has been replaced.

Adjustment procedure

1. Enter the SERVICE MENU and select STAND.
2. Press **GO**, when CALIBRATION OK is displayed, the center position of the motorised stand is found.

Picture adjustments

Picture adjustments

Picture adjustments

Correct adjustment of all parameters can only be obtained by using special test signals and equipment for light measurement.
Adjustment of the specific parameters are not described.

Picture setting (TV – MENU – OPTIONS – PICTURE)

Brightness	Contrast	Colour
Middle position (32)	Middle position (32)	Middle position (32)

1. Check the picture quality
2. If adjustment is necessary, insert the default factory values.
3. Confirm the picture quality.

Default factory values

HOP picture menu

HOP settings:

BRILLIANCE	9
COLOUR	19
CONTRAST	35
RED DRIVE	23
GREEN DRIVE	22
BLUE DRIVE	22
BLACK OFFSET R	7
BLACK OFFSET G	7
SOFT CLIP	0
PWL	2

ADC Adjustments

R OFFSET	16
R COARSE	58
G OFFSET	16
G COARSE	58
B OFFSET	16
B COARSE	58
HSYNC	144

SCALER Menu 1

PICTURE OFFSETS

BRIGHTNESS	15
COLOUR	23
CONTRAST	50
SCALER CONTRAST	136

SCALER Menu 2

DISPLAY WHITE POINT:	
DISPLAY R	128
DISPLAY G	114
DISPLAY B	101
DISPLAY GREY POINT:	
DISPLAY R	11
DISPLAY G	16
BLUE STRECH	2

FEATURE Box menu

MOVIE MODE	AUTO	
COMBFILTER	ON	
AGC	OFF	must always be OFF
MAIN-DECODER:		
DIGITAL GAIN CVBS	25	
DIGITAL GAIN R	22	
DIGITAL GAIN G	22	
DIGITAL GAIN B	22	
ANALOG GAIN CVBS	3	
ANALOG GAIN R	5	
ANALOG GAIN G	5	
ANALOG GAIN B	5	
SATURATION CVBS	+49	
SATURATION RGB	+64	
SUB-DECODER:		
DIGITAL GAIN	25	
ANALOG GAIN	3	
SATURATION	+49	

Factory adjustment values

The FBX adjustments are individually adjusted for each main chassis and stored in the EEPROM, 1IC904.

The BeoVision 7 – 32 uses the picture adjustment values stored in 6IC6.

After replacing the main chassis the FBX values must be transferred from 1IC904 to 6IC4.

Transfer data from 1IC904 to 6IC6.
Enter Service menu – Monitor – Picture Adjustments – Feature Box Menu.
Press **GO**.
The values are transferred from 1IC904 to 6IC6.

Warning – loose of factory adjustment values !
FBX values that are changed using the Service menu are stored in 6IC6 and overwrites the data in 1IC904.
The original factory values are hereby lost.

Do not change the values manually in the Service menu !!!!

COMBFILTER ON/OFF (default ON)
Comb filter ON:
Better separation of chroma and luminance compared to the conventional separation.
On critical signals there is a risk of incorrect colour identification.
If signal is changed from SECAM to PAL the colour might synchronize to the wrong colour system.

Comb filter OFF:
Conventional chroma and luminance separation.

MOVIE MODE AUTO/ON/OFF (default AUTO)
Movie mode reduces judder in movies, for example better quality when panning.
If you experience a disturbing quality in scrolling text/titles that are more annoying than the judder, you can disable the Movie mode.

OFF Movie mode disabled.
ON Movie mode always enabled.
AUTO Only enabled when DVD is selected.

A/D PHASE ADJUSTMENT

The PHASE ADJUSTMENT picture is used as test picture.

Adjust the PHASE VALUE for maximum jitter
Use the ◀◀ and ▶▶ to adjust.
Press GO to store.

Geometry adjustment

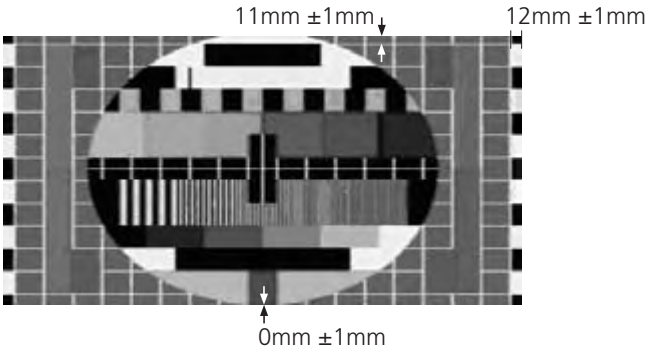
Geometry adjustment is normally not necessary.
The geometry may be checked.

All measurements concerning the geometry are measured with the contrast screen mounted.
Measurements are performed with a ruler, or by counting pixels.
For the best result, measurements are performed in a straight angle to the LCD panel, e.g. you see into the reflection of your own eye.

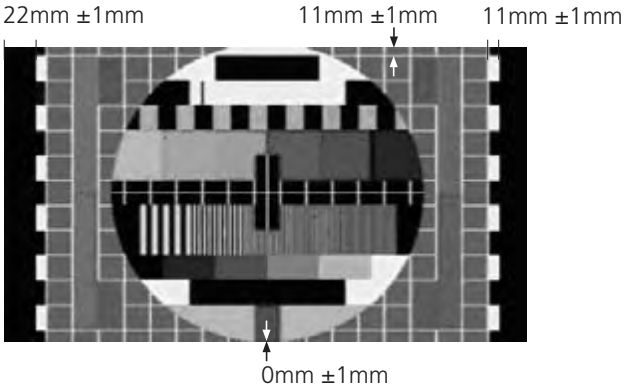
It is recommended to use a tv test picture, test tape part no. 6780000.

Geometry specifications

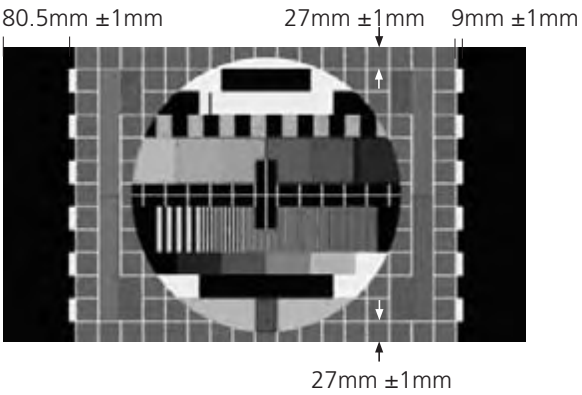
Format 1
16:9 Panorama



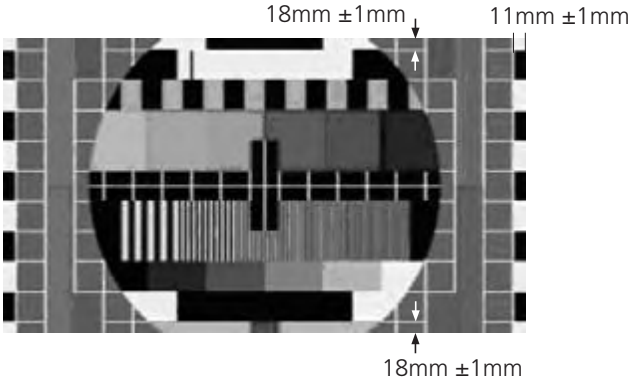
Format 1
15:9



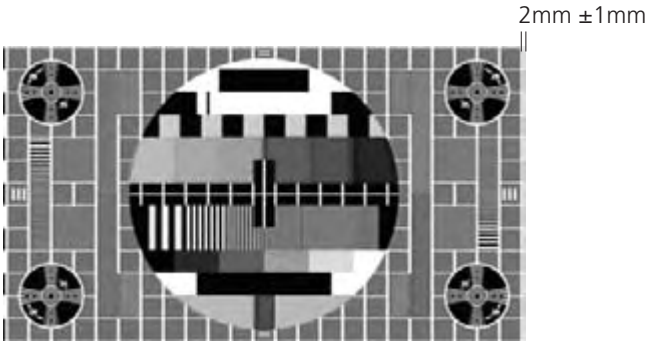
Format 1
4:3



Format 2
Letterbox



Format 3
Real 16:9



It is possible to adjust the size and position in the "SERVICE MENU – MONITOR – GEOMETRY ADJUSTMENTS".

Geometry is adjusted in FORMAT 1, 16:9 Panorama with a 4:3 testpicture, the values for all other formats are calculated.

The picture FORMAT 1, 4:3 must be enabled.
Customer Service Menu - ADJUSTMENTS
or
SERVICE MENU – MONITOR – TELETEXT & FORMAT ADJUST.

Geometry adjustment procedure

Check the geometry specifications:
FORMAT 1, 16:9 Panorama
FORMAT 1, 15:9
FORMAT 1, 4:3
FORMAT 2, letterbox
FORMAT 3, 16:9

If the geometry is within specifications no adjustment is necessary.

Adjustment of geometry

Insert the default factory values:

HOR SIZE 980
VERT SIZE 548

HOR POSITION 105
VERT POSITION 9

Disable the picture FORMAT 1, 4:3.

Final check after repair

Final check after repair

Final check after repair

The final check after repair, describes the activities that are needed to ensure the product will be returned in perfect condition to the customer.

The contents are:

- Insulation test / AC leakage test.
- Check product information.
- Restore the setup and check connections, picture and sound.
- Final cleaning of the product.
- PIN-code setting

Insulation test

Each set must be insulation tested after having been dismantled. Make the test when the set has been reassembled and is ready to be returned to the customer.
Flashovers must not occur during the testing procedure!

Make the insulation test as follows:
Short-circuit the two pins of the mains plug and connect them to one of the terminals of the insulation tester. Connect the other terminal to ground on the aerial socket.

NOTE!
To avoid damaging the set it is essential that both terminals of the insulation tester have good contact.

Slowly turn the voltage control of the insulation tester until a voltage of 2.5 kV ac and max. 10mA is obtained.
Maintain that voltage for one second, then slowly turn it down to 0 V ac again.

Monitor information

The scope of this check is, to ensure the following:

- The product has maintained the correct identity.
- Is set to correct option.
- The error code register is cleared.

Procedure
Enter Service menu – monitor service menu – monitor information.
Check the serial number is correct.
Check option setting is correct.
Clear the error code.
Select error code and press **GO**.

Customer setup

Remember to inform the customer of any changed that has been made in the user setup, due to procedures in the service manual, such as Connections, Sound, Picture, etc.
Restore the product to the customer setup.

TV SETUP - OPTIONS

Connections, such as DVD, STB, VTR
Sound, external speakers
Picture
Clock

Check all sources are working correctly

- Check that picture and sound on all sources are working correctly.
- Check the teletext is working correctly.

Clean the product

Never user alcohol or other solvents to clean any part of the television.
Use a soft, lint-free cloth to clean the surfaces of the television.

Contrast screen

To clean the contrast screen or the LCD, use a mild window cleaning fluid. To retain the optimum performance of the screen, make sure that no streaks or traces of the cleaning fluid are left on the screen or the LCD.

NOTE
Be ware that some types of micro-fibre cloth may harm the optical coating due to their strong abrasive effect.

Cabinet surfaces

Wipe dust off the surfaces using a dry, soft cloth. Remove grease stains or persistent dirt with a soft, lint-free, firmly wrung cloth, dipped in a solution of water containing only a few drops of mild detergent, such as washing-up liquid.

PIN-code

Please refer to the user guide for further information about the use of PIN-code.

Information to the customer

The PIN-code must be activated by the customer.

Customer Service Menu

The Customer Service Menu gives the opportunity to customise and optimise features in the BeoVision 7 – 32, that normally requires the aid from the dealer or service center.
It may also be used to give the Service Center the basic information of the product, directly on screen not by reading a lable on the rear side.

Access to Customer Service Menu:
Press the **MENU** button on Beo4 to get into the "TV Set-up Menu".
Place the cursor on ´OPTION´. Press the **RED** button and within 3 seconds press **GO**.

CUSTOMER SERVICE MENU

STATUS INFO
ADJUSTMENTS

Select STATUS INFO, press **GO**.

STATUS INFO

TYPE NO.	9311
ITEM NO.	1816077
SERIAL NO.	00082889
OPTION SETTING	1
AP SW	3.0
IOP SW	22.0
M2 SW	3.0
STAT DISP SW	1.0
STB TABLE	2.7
PROJ TABLE	0.90b
DSM SW	2.3
DVD - FEP SW	1.85

Status Info

Type number
Shows the variant and the main group for type approval.

Item number
This number shows if the TV is mounted with DVB-S module, Digital Surround Sound module, DVD etc.

Serial number
Unique number for the TV set.

Option setting
Shows the current option setting.

AP SW
Software version for the Application Processor (AP).

IOP SW
Software version for the IOP processor.

M2 SW
Software version for the M2 processor.

STAT DISP SW
Software version for the Status Display processor.

STB-C TABLE SW
Software version for the Set-Top Box Controller table.

Projector Table
For future use.

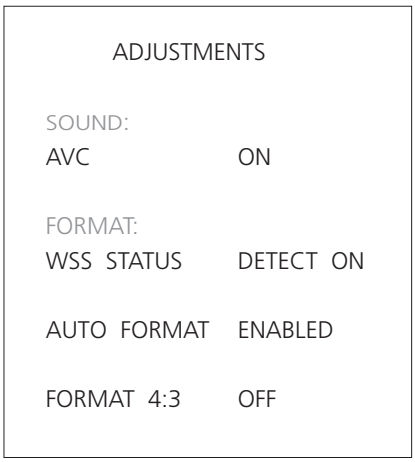
DSM SW
Software version for the Digital Surround Sound module (processor).

DVD - FEP SW
Software version for the DVD Front-end Processor.

If a function/feature is not present in the TV the associated software information will not be shown in the Status menu.

Adjustments

Select the ´ADJUSTMENTS´ line and press **GO**.



Move cursor press ▲, ▼
Select new values pess ◀◀, ▶▶
Store new values press **GO**

SOUND

AVC ON/OFF (default ON)
The AVC, Automatic Volume Control, ensure a constant sound level in the speakers for any selected TV channel. The AVC compensates for the difference in the sound modulation that might be on the different TV channels.

AVC ON	AVC is enabled
AVC OFF	AVC is disabled

WSS STATUS DETECT ON/ DETECT OFF/ BROADCAST ONLY (default DETECT ON)
The WWS, Wide Screen Signalling, is the signal that set the correct format on the screen.
The signal is usually on DVD's and may be supplied by the TV Broadcasters.

BROARDCAST ONLY
TV tuner signal only.
Detector is enabled for signals from the TV tuner.
The signal is applied by the broadcast company.

DETECT ON
All sources, f.ex. TV tuner, DVD and sources connected to the AV-sockets.

DETECT OFF
Detector disabled.
This mode may be used if the signal is of poor quality, which results in random changing of picture format.
This situation might occur on TV tuner signals with poor signal to noise ratio.

AUTO FORMAT ENABLED / DISABLED (default ENABLED)
Auto format adjusts the picture to the best picture format and uses Black Bar Detection for determination of the best format.
The picture format may always be selected manually using the Beo4.

ENABLED
Picture format is automatically adjusted for optimum format.

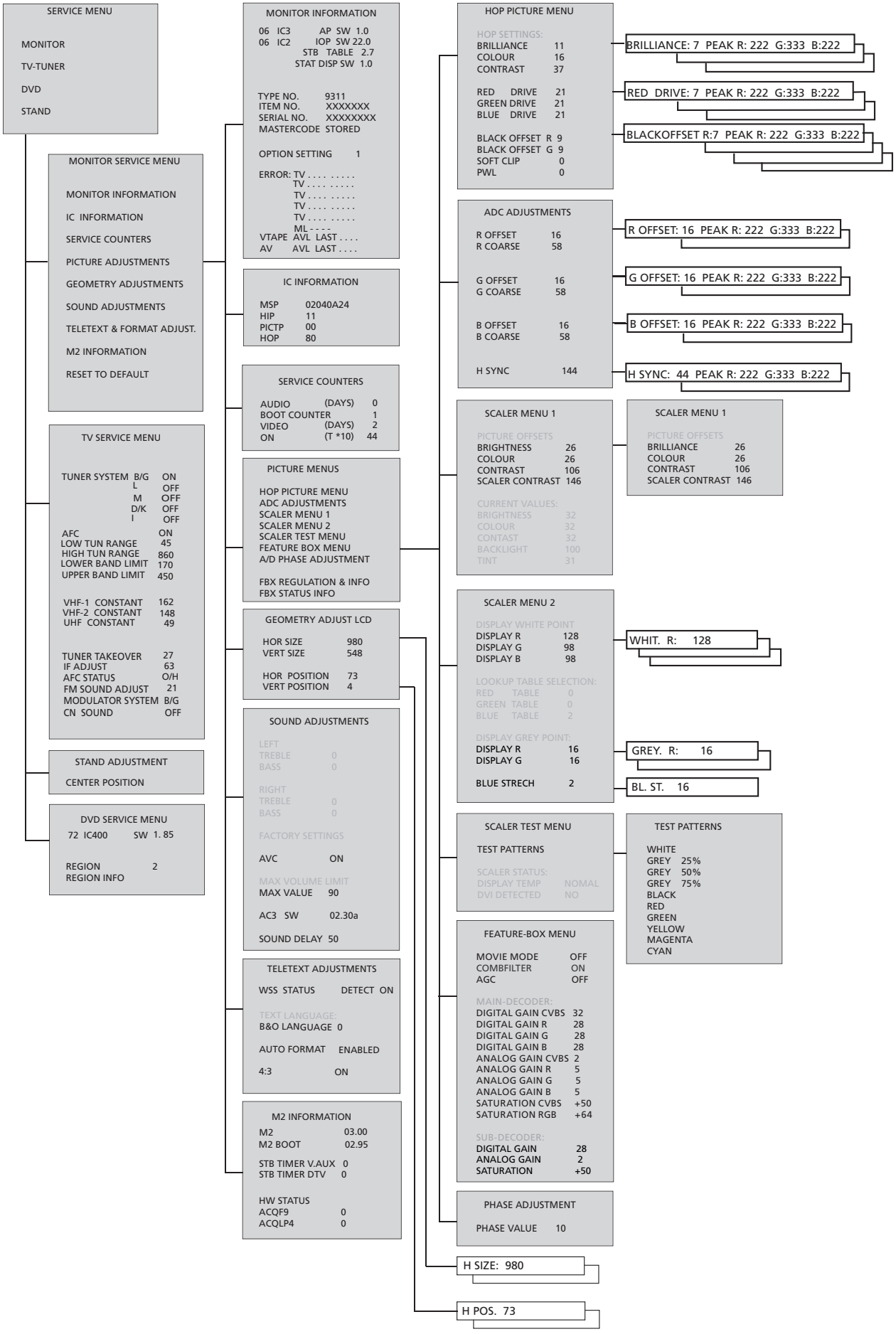
DISABLED
Picture format is maintained in the selected format.
The picture format is either the factory default setup or selected manually using the Beo4.

FORMAT 4:3 ON/OFF (default OFF)
The picture format 4:3 is disabled in the factor setting.
It can be enabled manually using the Beo4.
4:3 is only enabled in FORMAT 1.

ON
Picture format 4:3 is enabled in FORMAT 1.

OFF
Picture format 4:3 is disabled in FORMAT 1.

Service menu



Service Mode

The Service Mode consists of two parts: Service menu and ignore mode.
On page 4.4 see an overview of the Service Mode menus, and operation in Service Mode.

SERVICE MENU

The STAND line is only shown if the TV is fitted with motorized stand. The function is described in the section on adjustments.

MONITOR SERVICE MENU

The PICTURE ADJUSTMENTS and GEOMETRY ADJUSTMENTS lines are described in the section on adjustments.

MONITOR INFORMATION

- Software version numbers
  The "STB TABLE 1.0" line shows the version of conversion of set top box remote control codes into Beo4 codes. The line is only shown if the M2 processor has been flash programmed.
- Type, item and serial numbers
- PIN-code status. Shows if the Master code is correctly entered (STORED/NOT STORED)
- Option programming
- Latest five TV errors
- Latest ML error
- Latest AVL error from the AV sockets

OPTION SETTING

Option 0 = The IR receiver of the TV is disconnected.
Option 1 = The TV and the Audio system (BeoLink system) are placed in the same room.
Option 2 = The TV and the Audio system (BeoLink system) are placed in different rooms.
Option 4 = Two TV's in the same room and the TV's are not linked together.
Option 5 = The TV and the Audio system (BeoLink system) are placed in the same link room.
Option 6 = The TV is the only product in the link room.

ERROR:TV

The TV is able to detect certain types of error and display them on the screen. The five latest TV errors are shown as error codes and displayed with the month/date (four digits) as provided by the system clock. The most recent error is displayed at the top. As the TV has no hardware clock the displayed month/date will not be correct, but can be used to see if more errors have occurred at the same date.

TV error

The following TV error types can be displayed:

. . . .	No error registered
DF	Data failure
POR1	Power on reset failure 1
POR2	Power on reset failure 2
PDD	Power down detected failure
XX-YZ	(XX = IIC address Y = IIC bus 1 or bus 2 Z = any IIC bus segment A/B/C/D)

ML error

ML error codes are for detection of errors in the Master Link system.

. . . .	No error registered
CI	Address configuration impossible
TD	ML data pulled down
TU	ML data pulled up
??	Other undefinable error possibilities

AVL error

AVL error codes from the AV sockets

. . . .	No error registered
TI	Transmission impossible
TD	Data link tied down

Motorised stand

Motorised stand error codes

ST-01	Calibration error too few positions
ST-02	Calibration error too many positions
ST-03	Calibration error EEPROM
ST-04	Calibration error transducer
ST-05	Calibration error position

After repair of an error that has triggered the display of an error code, the error code has to be deleted. This is done by pressing **GO** in the MONITOR INFORMATION menu.

IIC bus error

An IIC bus error means that the communication on the bus fails when the microcomputer tries to communicate with the address in question.

In most cases this means that the addressed IC is defective but the defect could also be in one of the components surrounding the IC or in other components on the bus. Adresses in connection with IIC bus errors:

Error code	Module	IC	Function	On modes	Clock	BUS
22	1	IC800 SDA6000	M2 Processor	AV	400 kHz	IIC-2D
40	1	IC501 SAA7119E	Video Decoder	V	100 kHz	IIC-3_1
42	1	IC500 SAA7119E	Video Decoder	V	100 kHz	IIC-3_1
5C	72	IC600 3687	DVD FEP	AV	100 kHz	IIC-2C
60	6	IC2 H8/3216	IOP Main processor	SAV	400 kHz	IIC-1
68	1	IC600 SAA4979H	FBX	V	100 kHz	IIC-3_1
6C	58	IC4 3694	Display FEP	AV	100 kHz	IIC-1
70	5	IC400 SAA6714	Scaler	V	100 kHz	IIC-3_2
7C	5	IC500 P87LPC764	Scaler FEP	V	100 kHz	IIC-3_2
80	1	IC200 MSP3415G	Sound processor	AV	100 kHz	IIC-2C
84	32	IC601 H8/3214	Digital Sound Module	AV	100 kHz	IIC-1
88	1	IC1300 TDA7409	Power Link	AV	100 kHz	IIC-2B
8A	1	IC301 TDA9321H	Colour decoder & IF (HIP)	AV	100 kHz	IIC-2A
8C	1	IC700 TDA9330H	Video processor (HOP)	V	100 kHz	IIC-3_2
90	1	IC401 TEA6425D	CVBS Video switch	V	100 kHz	IIC-2C
94	1	IC1204 TEA6422	Audio matrix	AV	100 kHz	IIC-2B
96	1	IC400 TEA6425D	CVBS Video switch	V	100 kHz	IIC-2C
98	1	IC1205 TEA6422	Audio matrix	AV	100 kHz	IIC-2B
98	1	IC1201 TEA6420	Audio matrix	AV	100 kHz	IIC-2E
98	1	IC1203 TEA6420	Audio matrix	AV	100 kHz	IIC-2F
98	5	IC600 TDA8754	ADC	V	100 kHz	IIC-3_2
9A	1	IC1200 TEA6420	Audio matrix	AV	100 kHz	IIC-2E
9A	1	IC1202 TEA6420	Audio matrix	AV	100 kHz	IIC-2F
A0	5	IC502 M24C02	EEPROM f. Scaler	V	100 kHz	IIC-3_2
A2	1	IC901 PCF8563	Real-time clock	SAV	100 kHz	IIC-1
A4	1	IC904 M24C02	EEPROM for RTC	SAV	100 kHz	IIC-1
C0	1	TU1 CTF5510	TV tuner	AV	100 kHz	IIC-2A
C8	63	IC1 TDA8722M	Modulator	AV	100 kHz	IIC-2A

On modes:

S - Standby mode
A - Audio mode
V - Video mode

DF Data failure

If an error occurs in the EEPROM (6IC6) that prevents output of geometry data to the TV set, the microcomputer will replace the missing data with default data stored in the EPROM (6IC3) module 999.

POR1 Power on reset failure 1

Reset or update failure of 1IC301 (TDA9321H module 999) during start up.

POR2 Power on reset failure 2

Reset or update failure of 1IC700 (TDA9330H module 999) during start up.

CI Address configuration impossible

Error during address configuration. No address has been allocated because an excessive number of units has been connected to the Master Link.

- Disconnect all units from the link and reconnect them again one at a time.

TD ML data pulled down

The link is pulled down (Low). This error can occur in the form of a physical short circuit in the link. In the link drivers, or in the ML master/source circuit in the TV.

TU ML data pulled up

The link is pulled up (High). This error can occur in the form of a physical short circuit in the link. In the link drivers, or in the ML master/source circuit in the TV.

TI Transmission impossible

It is not possible to send data to pin 8 on the AV sockets, probably because of noise.

TD Data link tied down

The data link connection to pin 8 on the AV sockets is short circuited to ground.

ST-01 Calibration error too few positions

Not enough positions are read during Stand calibration. The Stand may be blocked.

ST-02 Calibration error too many positions

Too many positions are read during Stand calibration.

ST-03 Calibration error EEPROM

Failure when the Stand offset should be stored in the EEPROM.

ST-04 Calibration error transducer

An invalid position is read from the transducer.

ST-05 Calibration error position

Several readings from the transducer with the Stand in the same position.

IC INFORMATION

Shows the version numbers for the IC's mentioned.
MSP = 1IC200 (MSP3415G), HIP = 1IC301 (TDA9321H)
PICTP = Not used, HOP = 1IC700 (TDA9330H)

SERVICE COUNTERS

AUDIO = audio mode, the EHT voltage is off.
BOOT COUNTER = shows how many times the set has been connected to the mains voltage.
VIDEO = audio/video mode.
ON (T*10) = shows how many times the set has been turned on from stand by.

(T*10) = The numbers are stated in interval of 10 (e.g. 10 = 100).
The number is given in full tens.

The values are stored in the EEPROM. If faulty readings of the values in the EEPROM occur all service counter values will be set to 0.

SOUND ADJUSTMENTS

LEFT and RIGHT TREBLE/BASS are for future use.

AVC (Automatic Volume Control)

If the AVC is set to ON the TV will compensate for different sound modulation levels on the TV channels.
If the AVC is set to OFF the compensation function is disabled.

Can also be set to OFF when measuring in the audio circuits. The AVC is set to ON when the TV has been turned off by means of the mains switch.

MAX VVALUE

Can e.g. be used to limit the max. volume regulations on TV's placed in hotel rooms.

AC3

The AC3 SW version.

SOUND DELAY

In DSM mode the picture is delayed 50 ms in relation to the sound. The SOUND DELAY is used to compensate for that and can be altered in service mode.

TELETEXT ADJUSTMENTS

WSS STATUS

Some TV broadcasters transmit a picture format identification, enabling the TV to switch to the proper format automatically when WSS DETECT is ON if there is WSS codes in the signal.
BROADCAST ONLY: Only switching on signal from the TV tuner.
DETECT ON: Switching on signals from all sources TV tuner, DVD playback, and AV sockets.
DETECT OFF: Used under certain conditions, e.g. a poor signal-to-noise ratio, the detection may fail, which may entail faulty swithing.

B&O LANGUAGE

Selecting "B&O LANGUAGE" makes it possible to choose among 7 different teletext character sets.

0 English, German, Swedish, Italian, French, Portuguese, Slovak
1 Polish, German, Swedish, Italian, French, Croatian, Slovak, Rumanian
2 English, German, Swedish, Italian, French, Portuguese, Turkish
3 English, Russian, Estonian, Czech, German, Lithuanian, Ukrainian
4 English, German, Swedish, Italian, French, Portuguese, Turkish, Greek
5 English, Arabic, French
6 English, Hebrew, Arabic

If language 3 to 6 are choosen it is not possible to receive teletext level 2.5 d/r/c/s characters.
If language 3 to 6 are choosen it is not possible to make animation in the programme list in teletext mode.

AUTO FORMAT

If auto format is enabled the picture is automatically adjusted to the best picture format - automatic picture format optimization (Black Bar Detection). If the function is disabled the format optimization must be done manually with Beo4.

4:3

If this function is set to ON it is possible to use the 4:3 format in ´Format 1´. OFF disables format 4:3.

M2 INFORMATION

Software versions for the teletext processor 1IC800 SDA6000.
STB TIMER: Is default set to 0 but can be altered if timing problems occours during start up with certain Set Top Boxes.
HW STATUS: For factory use.

RESET TO DEFAULT

NOTE !

The Reset to default is activated directly when the menu line is highlighted and **GO** is pressed.

The text "PLEASE WAIT 30 SEC." is displayed.
While the text is displayed no operation must be done.
When the text disappears Service Mode is exited.

- Highlight RESET TO DEFAULT.
- Press **GO** on Beo4.
- Set the TV into Stand By.

When the TV start up from Stand By follow the setup procedure as if the TV is connected to the mains and switched on for the first time.

Stand

Stand position	
TV ON	mid position
TV Stand By	mid position

Program groups

Program groups are deleted.

Tuning

TV programs are deleted.

LINK FREQUENCY

FREQUENCY	599

Play timer

WAKE UP TIMER	OFF

Options

Connections

AV1/V.MEM	NONE	
	SOURCE	NONE
	AUDIO SOCKET	NONE
	IR SOCKET	NONE
AV2	NONE	
	SOURCE	NONE
	AUDIO SOCKET	NONE
	IR SOCKET	NONE
AV3	NONE	
	SOURCE	NONE
	AUDIO SOCKET	NONE
	IR SOCKET	NONE
AV4	NONE	
	SOURCE	NONE
	AUDIO SOCKET	NONE
	IR SOCKET	NONE
CAMERA	CAMERA	CAMERA
	SOURCE	NONE
	AUDIO SOCKET	NONE
	IR SOCKET	NONE

Sound

ADJUSTMENTS

VOLUME	..... *(mid position)*
BASS	..... *(mid position)*
TREBLE	..... *(mid position)*
SUBWOOFER	..... *(mid position)*
LOUDNESS	NO

SPEAKER TYPE

CENTRE	NONE
CONFIGURATION	
FRONT	NONE
REAR	NONE
SUBWOOFER	NO

SPEAKER DISTANCE

CENTRE	9m
LEFT FRONT	9m
RIGHT FRONT	9m
RIGHT REAR	9m
LEFT REAR	9m

SPEAKER LEVEL

SEQUENCE	MANUAL
LEFT FRONT	..... *(mid position)*
RIGHT FRONT	..... *(mid position)*
RIGHT REAR	..... *(mid position)*
LEFT REAR	..... *(mid position)*

Picture

BRIGHTNESS	..... *(mid position)*
CONTRAST	..... *(mid position)*
COLOUR	..... *(mid position)*

Clock

SYNCHRONISE	"program 1"

Menu language

ENGLISH

Customer service menu

ADJUSTMENTS

SOUND:	
AVC	ON
FORMAT:	
WSS STATUS	DETECT ON
AUTO FORMAT	ENABLED
FORMAT 4:3	OFF

System settings - access by Service Menu

Monitor information

Option setting 2

Picture adjustments

Feature box menu

MOVIE MODE	AUTO
COMBFILTER	ON
AGC	OFF

Sound adjustments

FACTORY SETTINGS	
AVC	ON
MAX VOLUME LIMIT:	
MAX VALUE	90
SOUND DELAY	50

User setting - not visible

Speaker mode
Set to speaker mode 3.

TV SERVICE MENU

In TUNER SYSTEM it is possible to set only relevant tuner systems to ON (only multi standard TV's). This is done to reduce the tuning time.
AFC ON/OFF is used in connection with adjustments but it may also be useful in other situations.
The AFC is set to ON when the TV has been turned off by means of the mains switch.

CN SOUND (ON) / OFF

Used to compensate for different sound modulation levels from TV transmitters in China.
Normally the frequency deviation is 100 kHz, but in China some TV transmitters are transmitting "Wide Sound" which has a frequency deviation of 360 kHz. This results in bad sound - distortion - because of the higher modulation level. To compensate for this CN SOUND must be set to ON.
The function is only working in combination with the tuner system D/K.
If the function is set to ON with other tuner systems it will not influence the sound.

LOW TUN RANGE	45
HIGH TUN RANGE	860
LOWER BAND LIMIT	170
UPPER BAND LIMIT	450
VHF-1 CONSTANT	161
VHF-2 CONSTANT	146
UHF CONSTANT	52

These items are for factory use.

TUNER TAKEOVER	26
IF ADJUST	8
AFC STATUS	O/H
FM SOUND ADJUST	14
MODULATOR SYSTEM	B/G

These items are described in the section on adjustments.

DVD SERVICE MENU

DVD FEP SW version.

Region

Information about the actual region code setting.

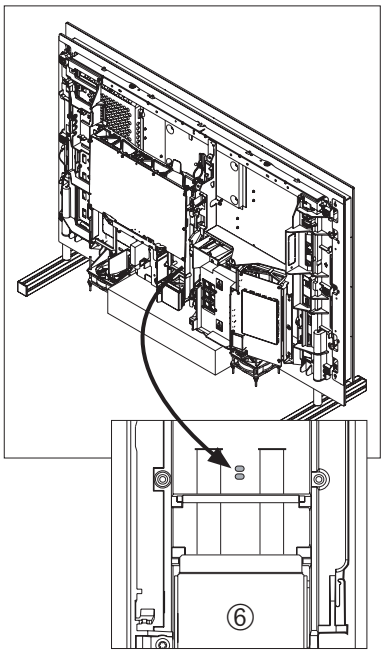
Region Info

Gives access to the service menu of the DVD, where it among other informations is possible to check that the Region code of the DVD is the same as shown in ´Region´.

Enter the Region Info:

- Press **GO** and the TV picture appears
- Press **DVD** and wait for the DVD picture
- Press **MENU** and then **0 0 GO**
- Access the DVD service menu
- Press **GO** and the DVD service menu appears
- To exit the DVD service menu switch the TV to stand by.

BUS Ignore mode



Bus ignore mode is used if an error occurs in the IIC bus system which forces the TV go into stand by every time an attempt is made to be switch it on.
The IIC error is ignored and the TV is swithed on.

IMPORTANT !
When the TV is switched on in BUS Ignore mode it may result in further damage to the TV.

1. Set the TV into stand by.
2. Short-circuit the solder pads.
   Marked R937 on coordinate 11E on PCB1.
3. Switch on the TV.
   The TV will switch on in BUS Ignore mode with the Service Menu active if possible.
4. Remove the short-circuit on the solder pads.
5. To exit BUS Ignore mode. Switch off the TV.

ServiceTool

Considerations before connecting the ServiceTool to the product

- Disconnect the product from the Mains supply.
- Follow the instructions described in the ServiceTool.

Contents in ServiceTool

The ServiceTool will contain the complete information concerning:

- How to connect the ServiceTool to the product.
- List of functions handles by the ServiceTool.
- Instruction for using the functions.

The ServiceTool does not contain:

- Description of access and connection to internal connectors inside the product.

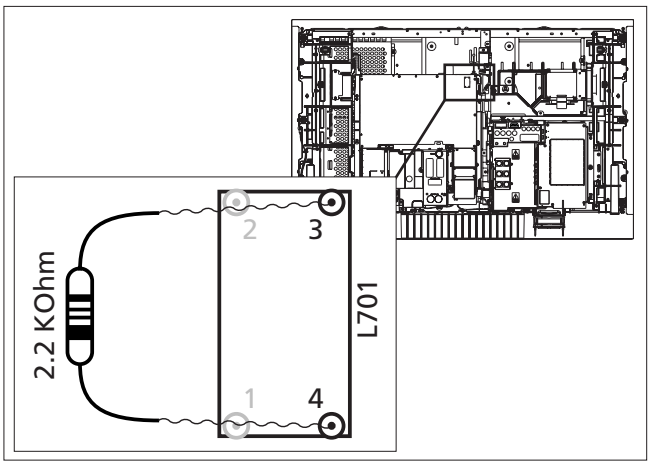
Replacement of modules

Modules that can be replaced

Warning – Discharge the power supply before dismantling

The power supply must be discharged before dismantling and/or replacement of LCD, any modules or PCB's.
There is a major risk of damaging the LCD when the connection between the LCD and the Main chassis is disconnected and the power supply has not been discharged.

Short-circuit pin 3 and 4, LCD power supply, as shown. If not, you will damage the LCD panel!



Purpose of replacement of modules

Short instructions for replacement of the available modules, with reference to additional illustrations:

- The correct sequence for replacing modules.
- Text and illustrations.
- Reference to adjustment.

Modules that do not require any special procedure may be shown as only illustrations.

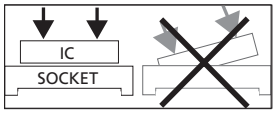
Replacement of 999 Module, Main chassis

Power supply must be discharged!
For detailed dismantling instructions, please refer to illustrations on page 5.14.

Notice

All modules must be placed on the ESD-mat or in an ESD-proof bag.

Replace 999 Module



1. Set the product in service position.
2. Discharge the power supply.
3. Connect ESD-mat.
4. Disconnect cables and modules from the Main chassis.
5. Remove the Main chassis and place it on the ESD-mat.
6. Insert the new Main chassis in the product.
7. Transfer 6IC6, EEPROM, from the old to the new chassis.
8. Remount modules and reconnect cables to the Main chassis.
9. Reconnect remaining cables.

   The product is now ready for adjustment.

10. Disconnect ESD-mat.
11. Connect mains.
12. Turn on the product.

Enter TV Service menu

13. Transfer the values for Tuner Taker Over, IF adjust and FM Sound adjust.

Enter Monitor Service menu

Check picture and geometry

14. Check picture quality.
    If picture quality is not OK, set ADC Adjustments, Scaler menu 1 & Scaler menu 2 data to default.

    If picture quality still is not OK, perform the complete Picture adjustment incl. A/D PHASE ADJUSTMENT.
    Check picture quality again.

    If picture quality is not OK, contact Bang & Olufsen.

15. Geometry check.
    If the geometry is not OK, set Geometry adjustment data to default.

16. Finish service.
    See chapter "Final check after repair".

Replacement of PCB8, Decoupling

Power supply must be discharged!
For detailed dismantling instructions, please refer to illustrations on page 5.23.

Notice

All modules must be placed on the ESD-mat or in an ESD-proof bag.

Replace PCB8, Decoupling

1. Set the product in Service position.
2. Discharge power supply.
3. Connect ESD-mat.
4. Disconnect cables connected to PCB8.
5. Remove the PCB8, and place it on the ESD-mat.
6. Insert the new PCB8 in the product.
7. Reconnect cables to PCB8.

   The product is now ready for adjustment.

8. Disconnect ESD-mat.
9. Connect mains.
10. Turn on the product.

Enter Monitor Service menu

Check picture and geometry

11. Check picture quality.
    If picture quality is not OK, set ADC Adjustments, Scaler menu 1 & Scaler menu 2 data to default.

    If picture quality still is not OK, perform the complete Picture adjustment incl. A/D PHASE ADJUSTMENT.
    Check picture quality again.

    If picture quality is not OK, contact Bang & Olufsen.

12. Geometry check.
    If the geometry is not OK, set Geometry adjustment data to default.

    Confirm geometry is OK.
    If geometry not OK, refer to "Adjustment".

13. Finish service.
    See chapter "Final check after repair".

Replacement of LCD

Power supply must be discharged!
For detailed dismantling instructions, please refer to illustrations on page 5.10.

Notice

All modules must be placed on the ESD-mat or in an ESD-proof bag.

Replace LCD display

1. Set the product in service position.
2. Discharge power supply.
3. Connect ESD-mat.
4. Disconnect cables connected to the LCD display.
5. Remove the LCD display, and place it on the ESD-mat.
6. Insert the new LCD display in the television.
7. Reconnect cables to the Main chassis.

   The product is now ready for adjustment.

8. Disconnect ESD-mat.
9. Connect mains.
10. Turn on the product.

Enter Monitor Service menu

Check picture and geometry

11. Check picture quality.
    If picture quality is not OK, set ADC Adjustments, Scaler menu 1 & Scaler menu 2 data to default.

    If picture quality still is not OK, perform the complete Picture adjustment incl. A/D PHASE ADJUSTMENT.
    Check picture quality again.

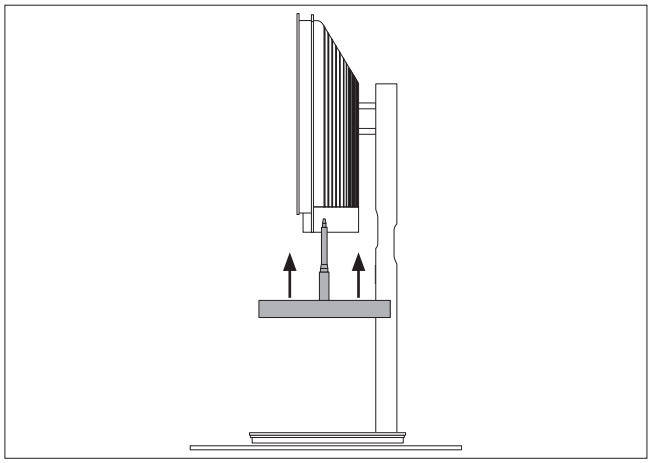
    If picture quality is not OK, contact Bang & Olufsen.

12. Geometry check.
    If the geometry is not OK, set Geometry adjustment data to default.

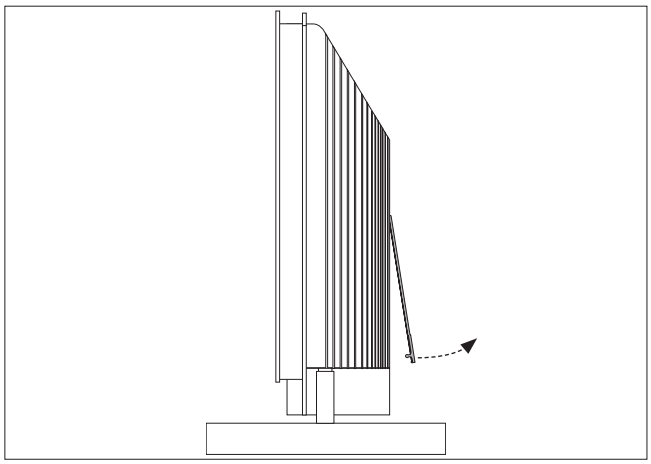
    Confirm geometry is OK.
    If geometry not OK, refer to "Adjustment".

13. Finish service.
    See chapter "Final check after repair".

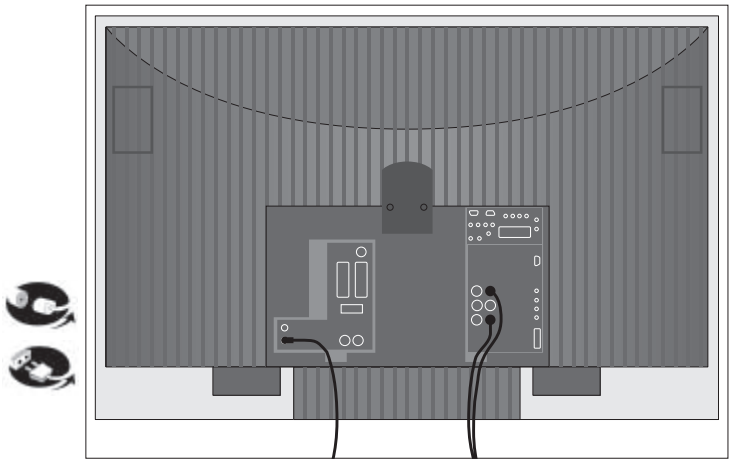
➢1
- Mount servicestand and remove from stand



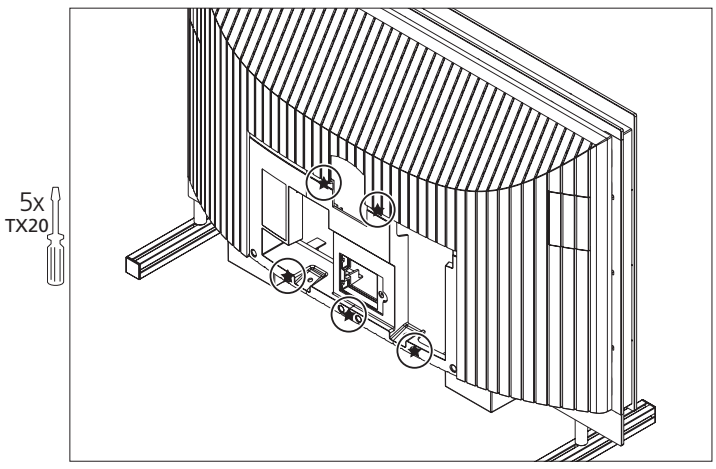
➢2
- Pull off socket covers



➢3
- Remove all cables

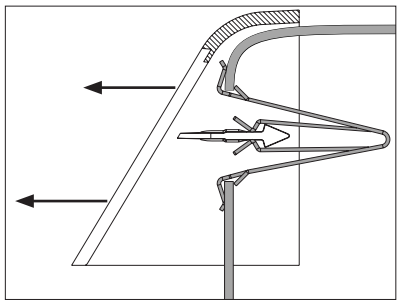


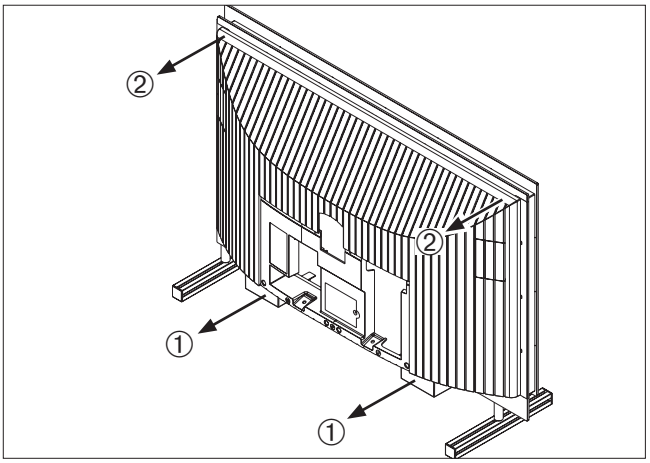
➢4
- Remove screws



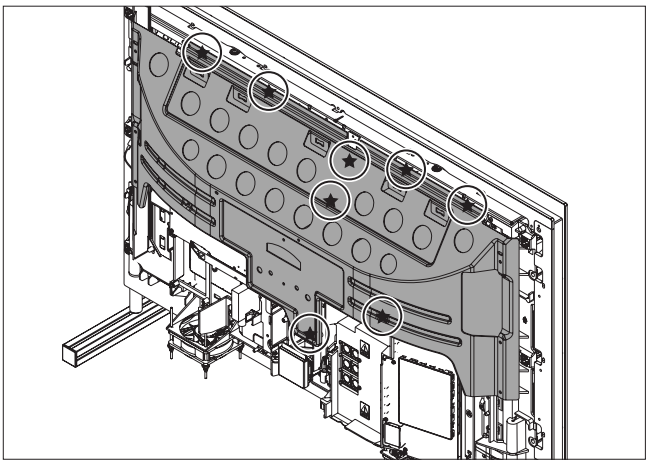
→

➢5
- Pull off rear cover, start at bottom

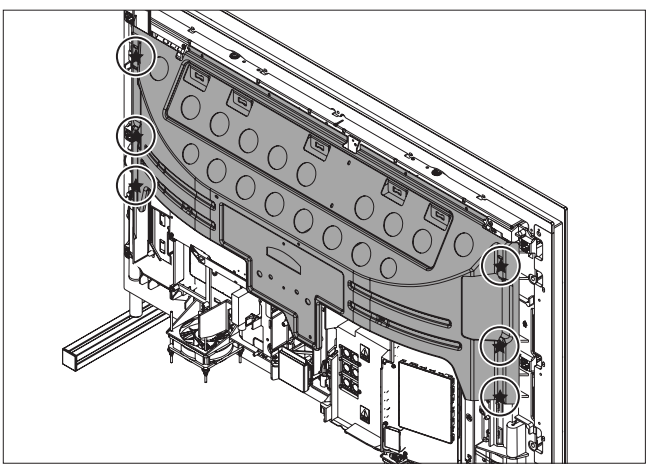




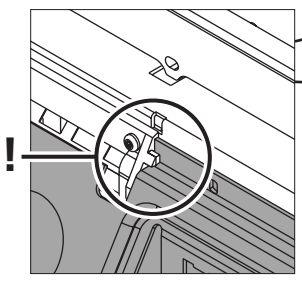
➢6
- Remove the blank screws

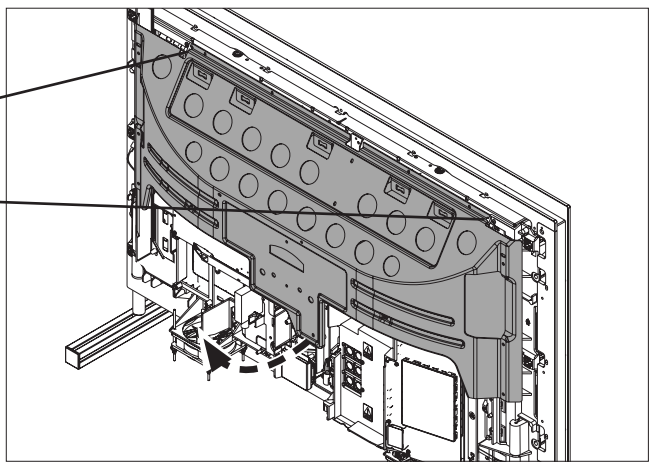


➢7
- Remove the black screws



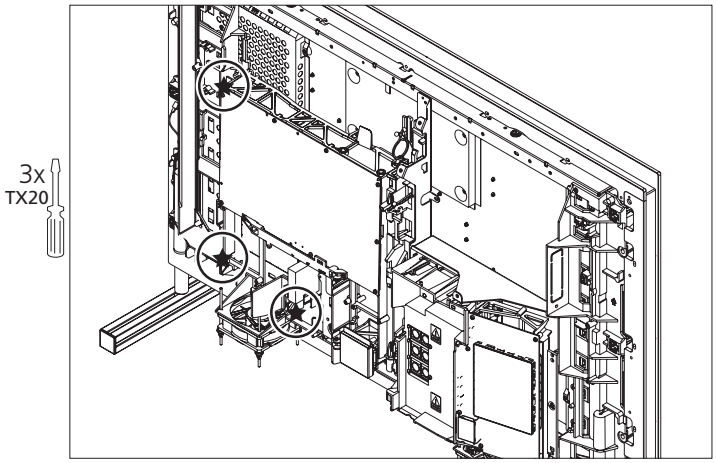
➢8
- Pull off reinforcement bracket



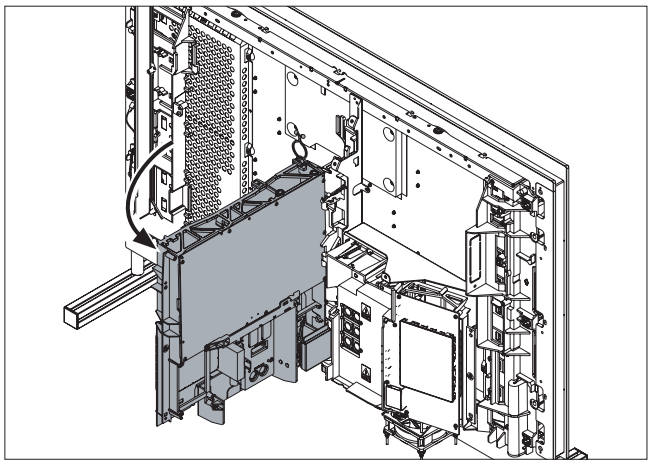


☞ 5.5 BeoVision 7-32 in service position

- Remove screws

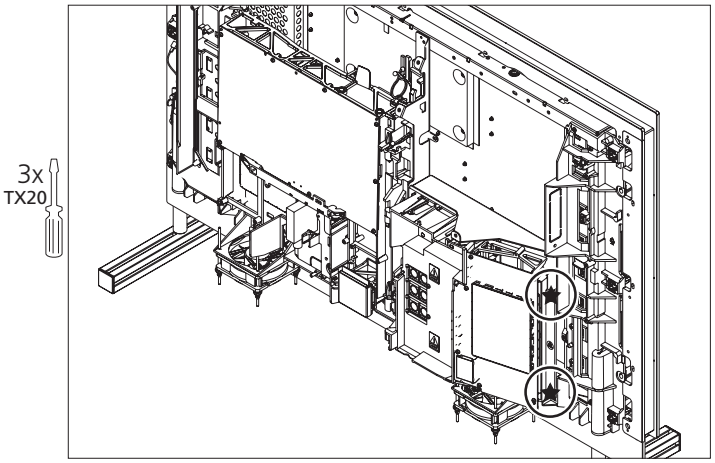


- Pull out left chassis 90°

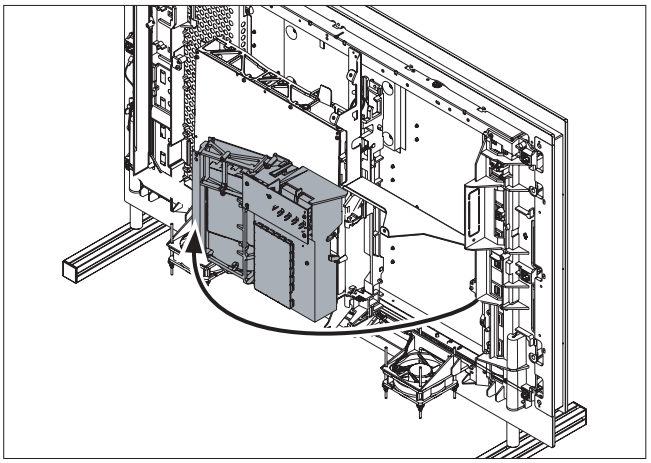


☞ 5.5 BeoVision 7-32 in service position

- Remove screws

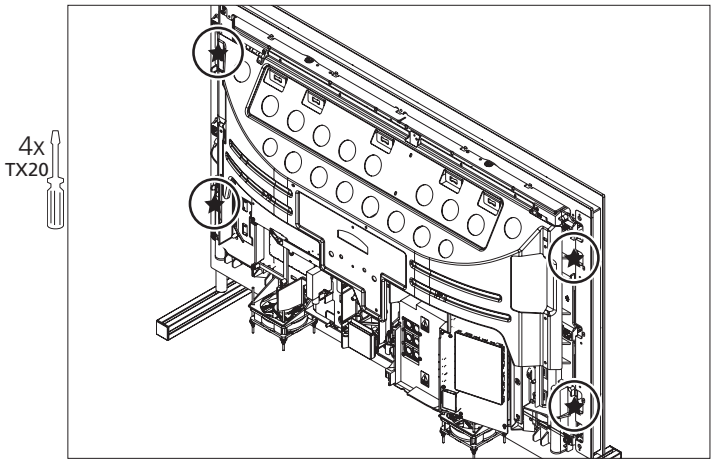


- Pull out right chassis 180°

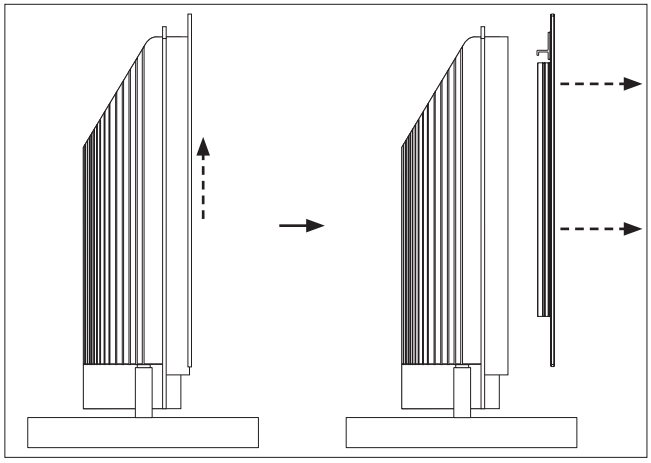


☞ 5.5 BeoVision 7-32 in service position
Fig. ➢1 – ➢5

- Remove screws

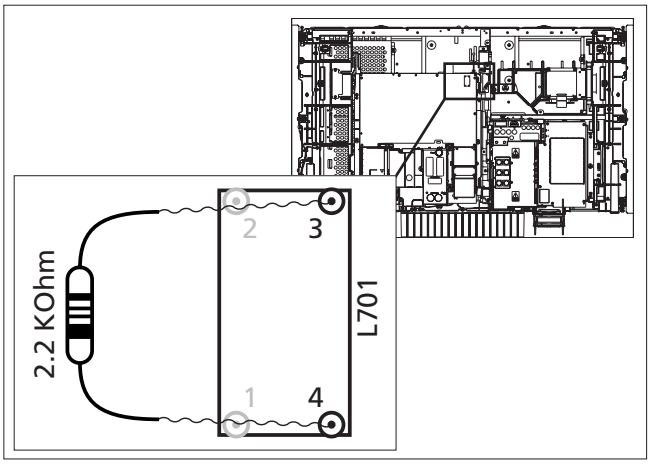


- Lift and pull of contrast screen

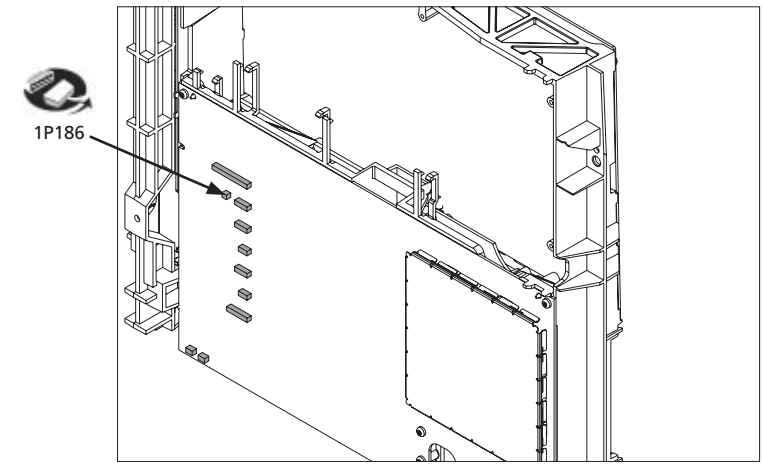


☞ 5.5 BeoVision 7-32 in service position
Short-circuit pin 3 and 4, LCD power supply, as shown. If not, you will damage the LCD panel!

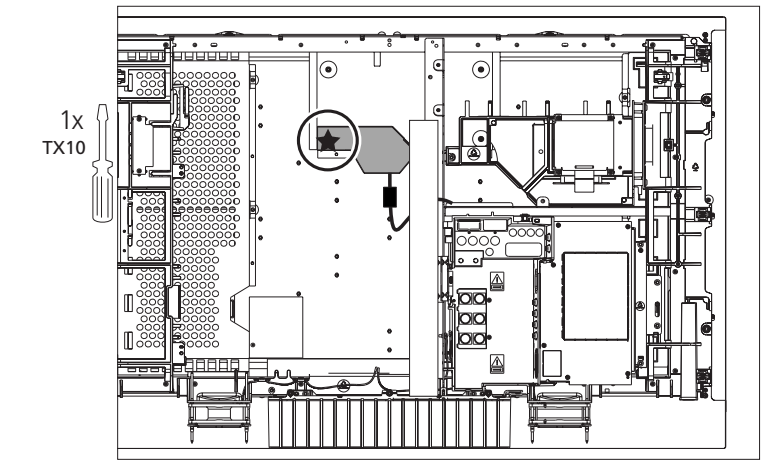
☞ 5.7 Left chassis in service position



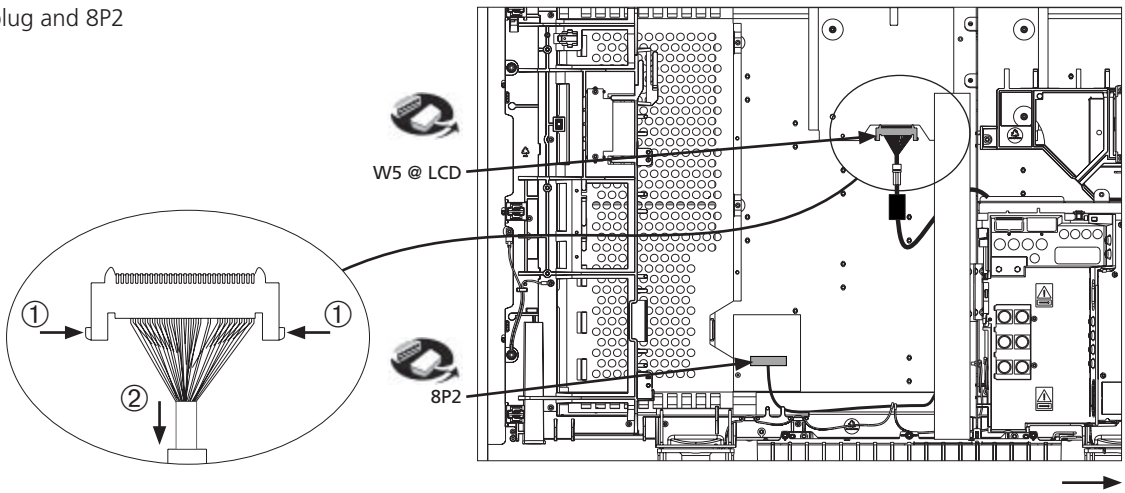
- Remove cables on PCB1



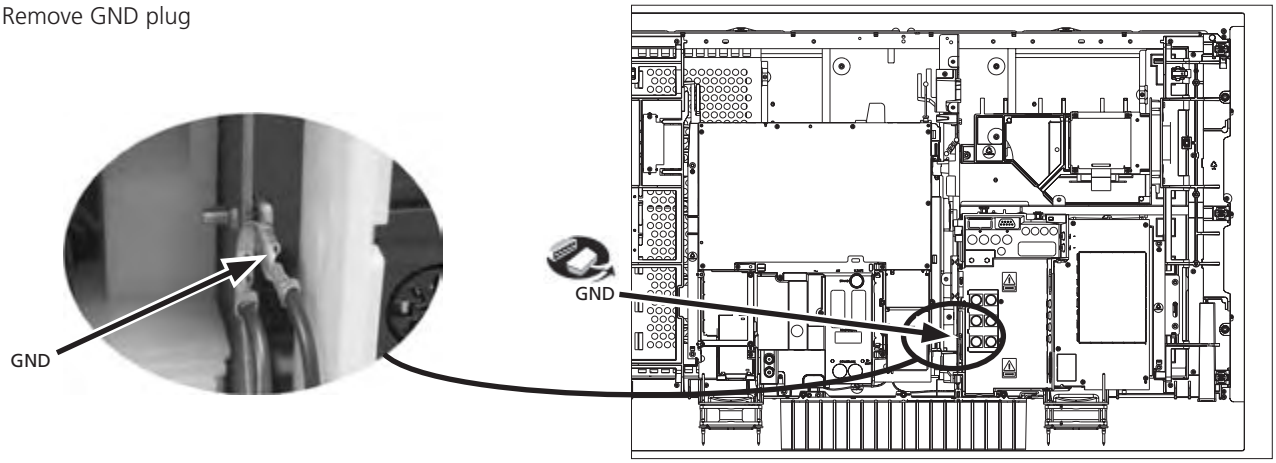
- Remove shield for LCD plug



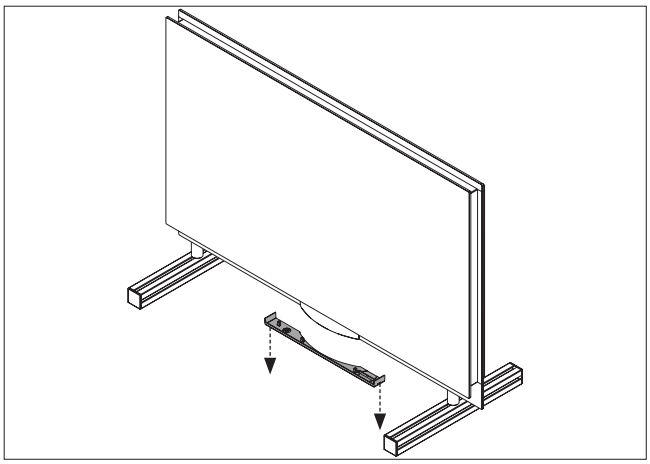
- Remove LCD plug and 8P2



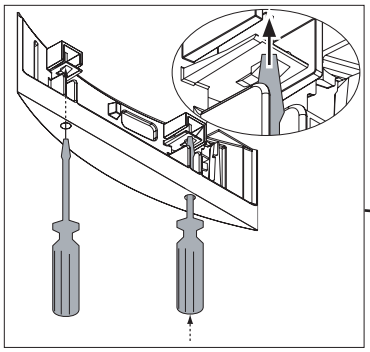
- Remove GND plug

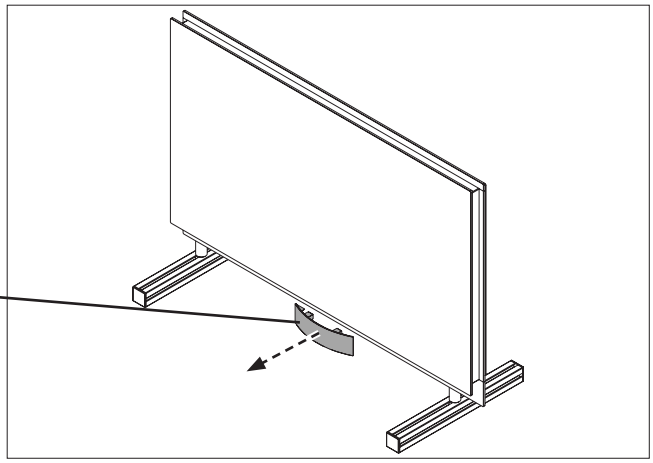


- Remove DVD touch panel

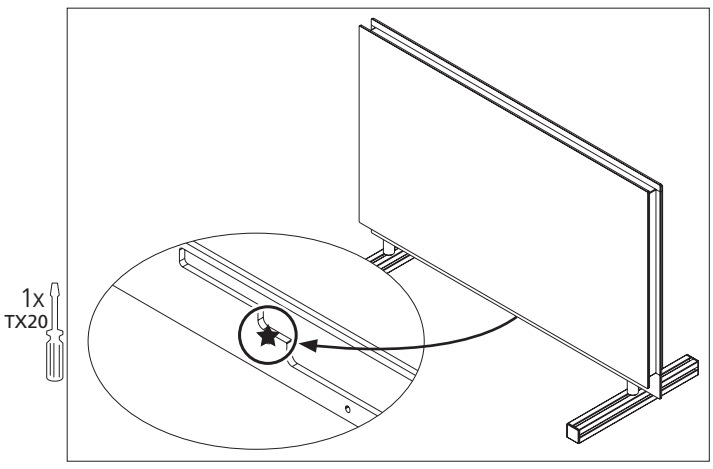


- Remove DVD front cover, by releasing the snaplocks

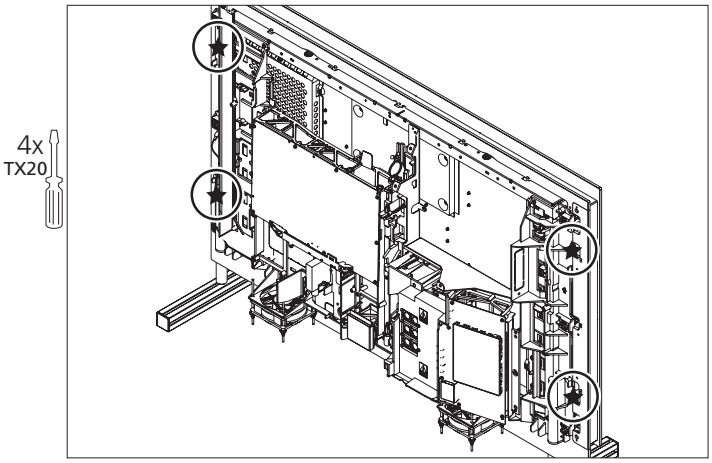




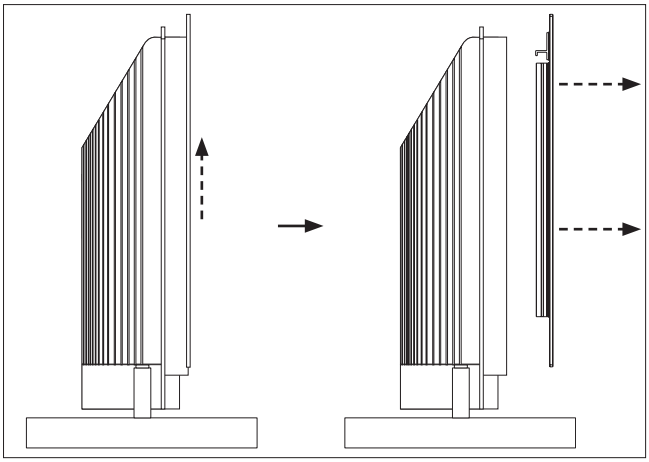
- Remove screw at DVD loader



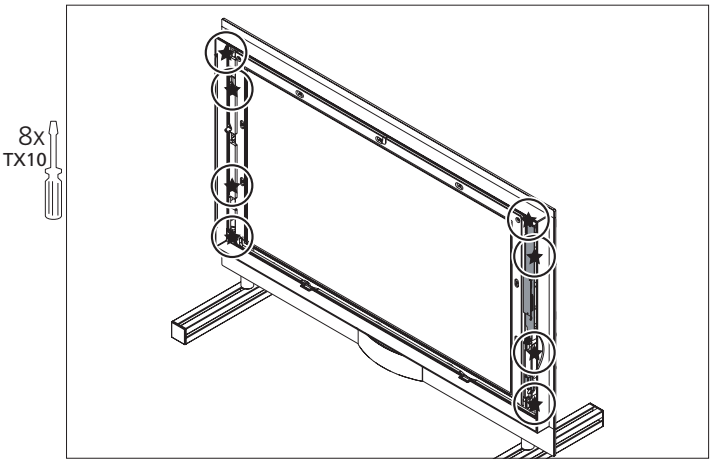
- Remove screws



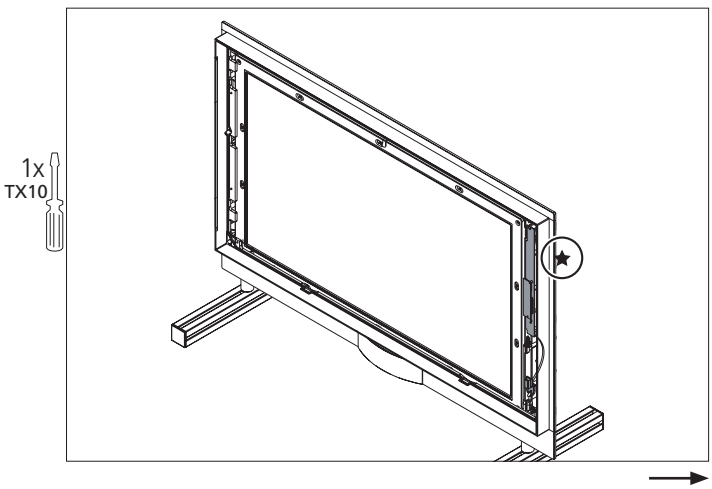
- Lift and pull of contrast screen



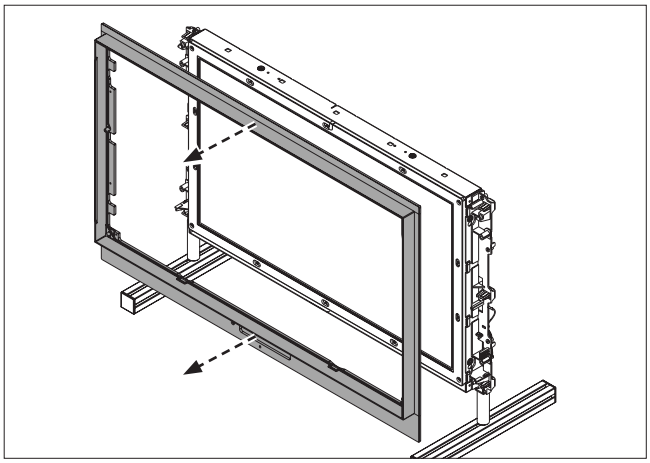
- Remove screws at front frame



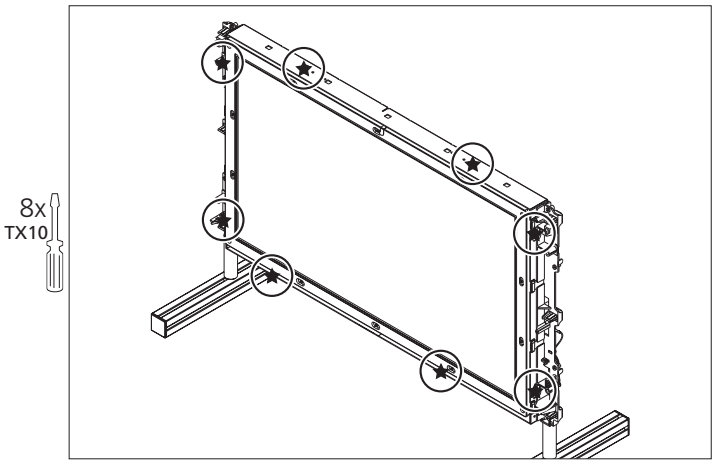
- Remove GND on back of front frame



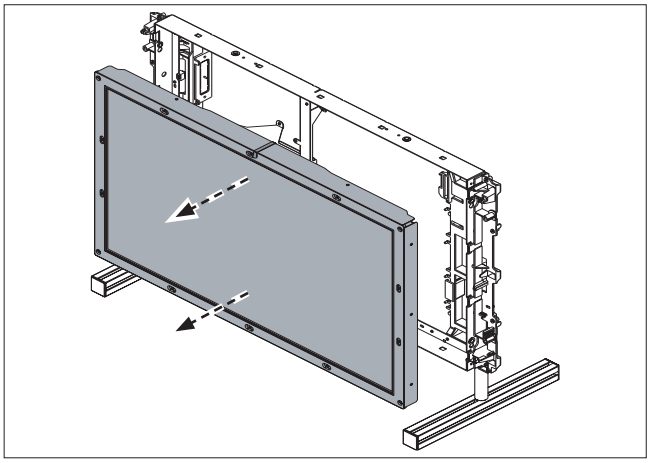
- Remove front frame



- Remove screws

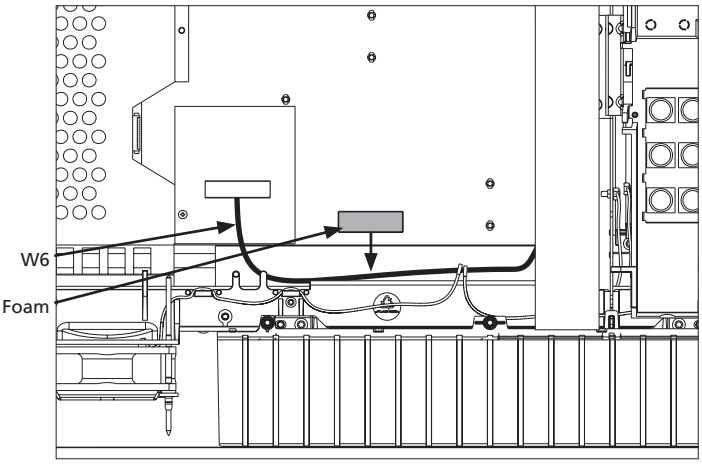


- Gently pull out LCD panel



Mounting new LCD!

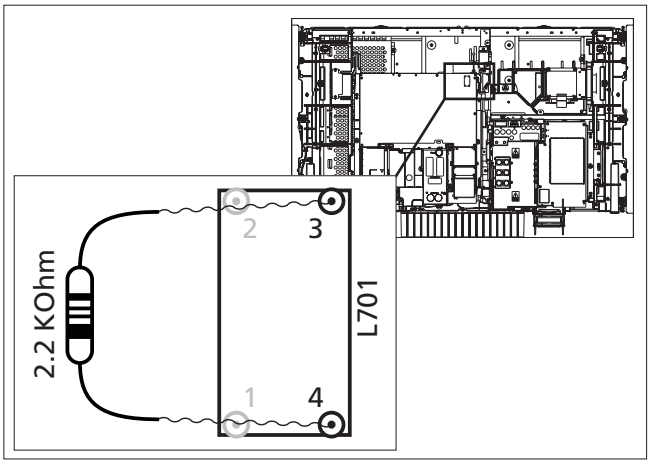
- Remember correct placement of W6
- Remember placement of foam



☞ 5.5 BeoVision 7-32 in service position

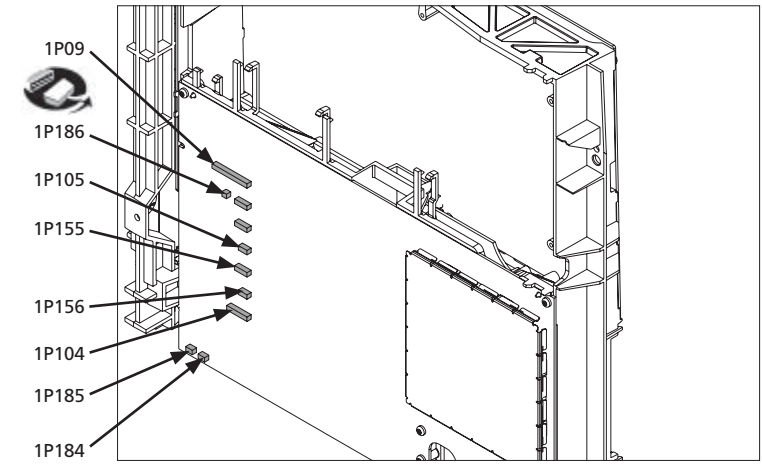
☞ 5.20 Remove DVB-S (If mounted)
Fig. ➢6 - ➢10

Short-circuit pin 3 and 4, LCD power supply, as shown. If not, you will damage the LCD panel!

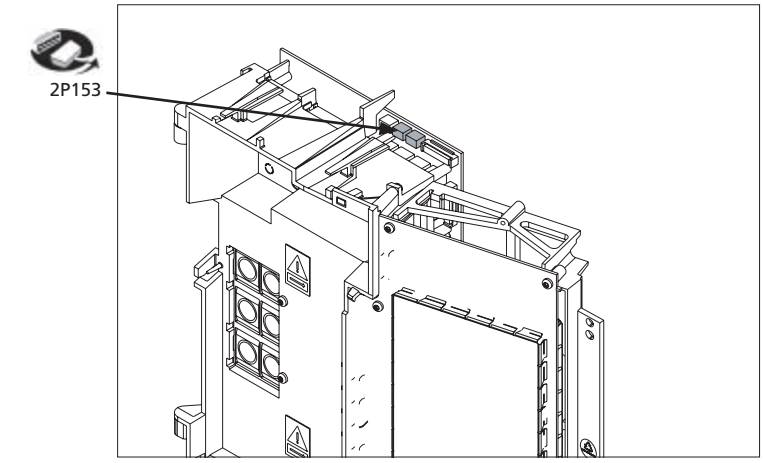


☞ 5.7 Left chassis in service position

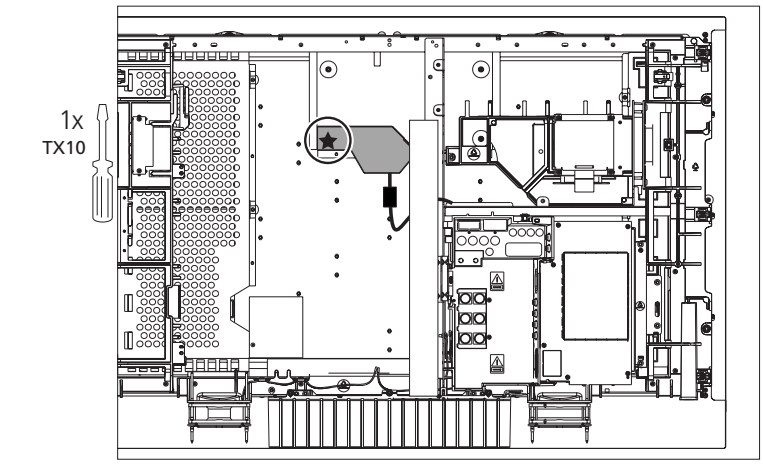
- Remove cables on PCB1



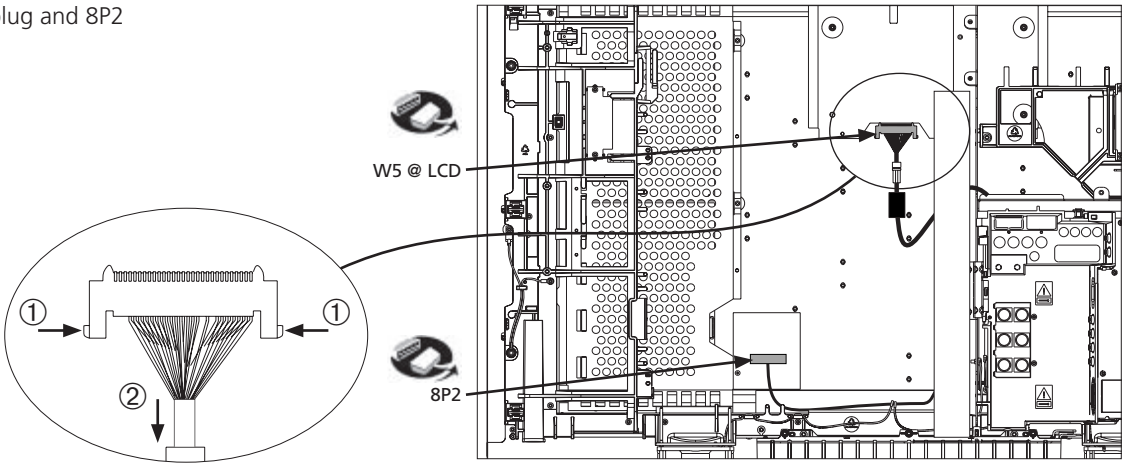
- Remove cable on PCB2



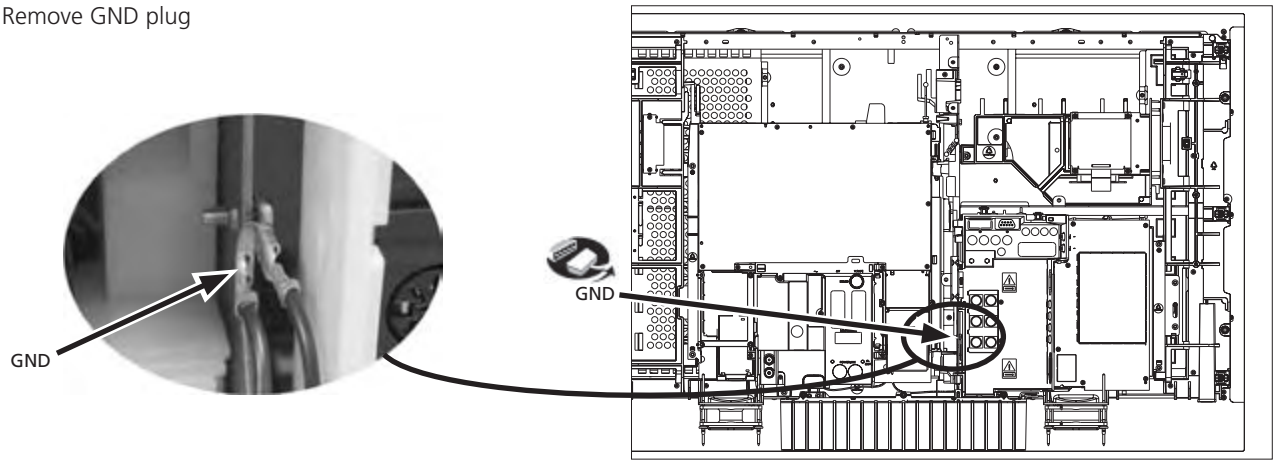
- Remove shield for LCD plug



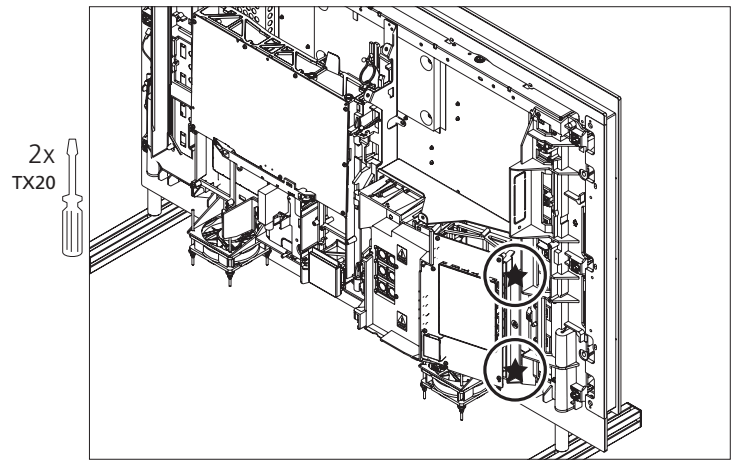
- Remove LCD plug and 8P2



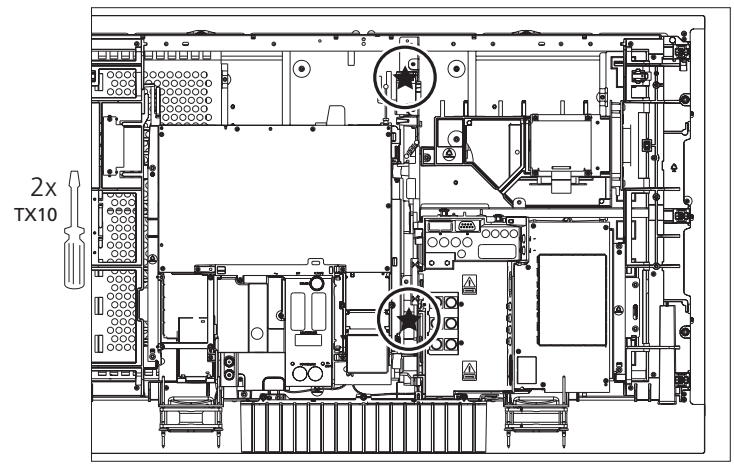
- Remove GND plug



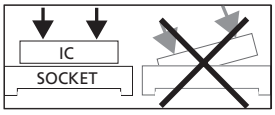
- Remove screws

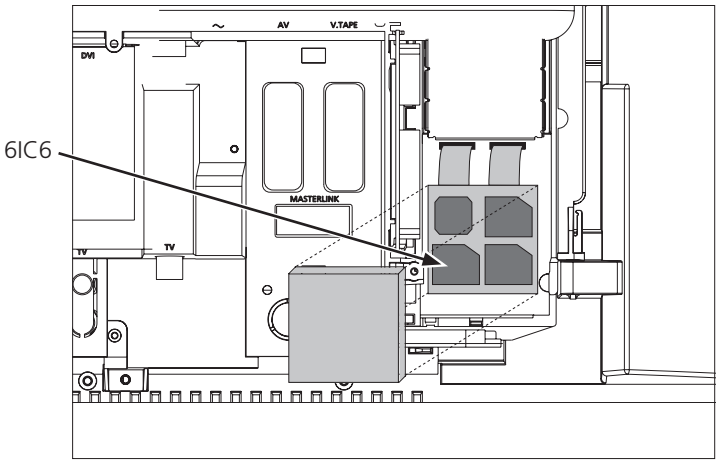


- Remove screws and lift of Main chassis



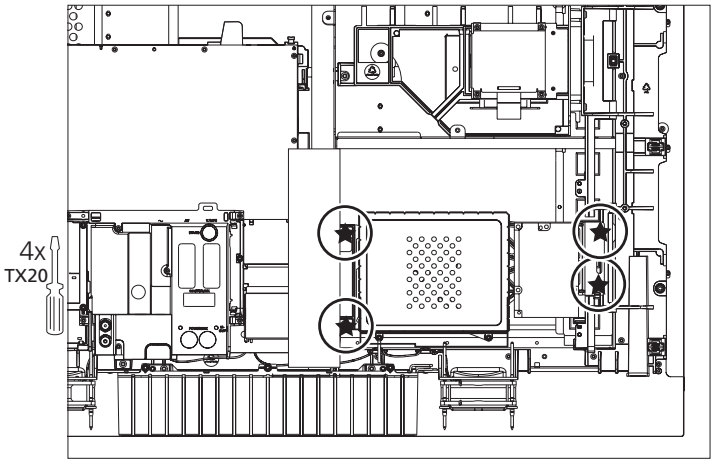
- Note: transfer 6IC6
  Replace using IC-pliers (part no. 3629145)



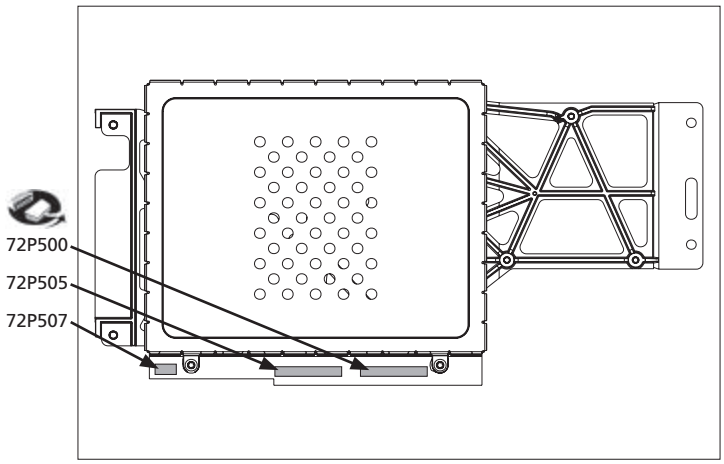


☞ 5.5 BeoVision 7-32 in service position
☞ 5.8 Right chassis in service position
☞ 5.28 Remove DVD supply, PCB74

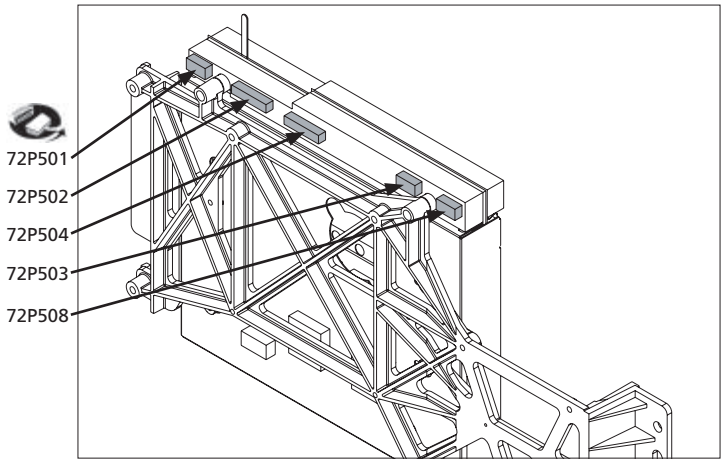
- Remove screws



- Remove plugs on front of 997 Module

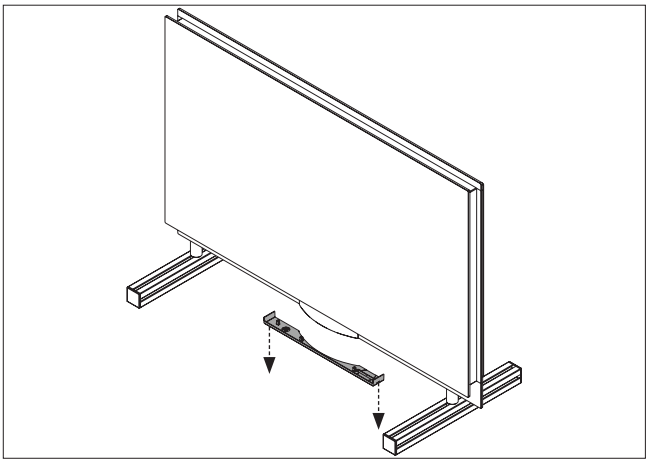


- Remove plugs on rear of 997 Module

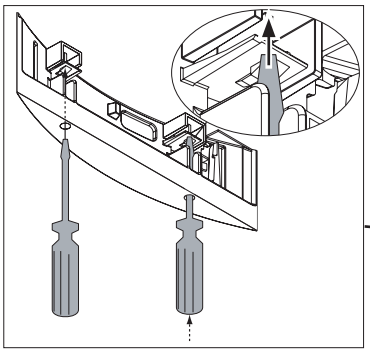


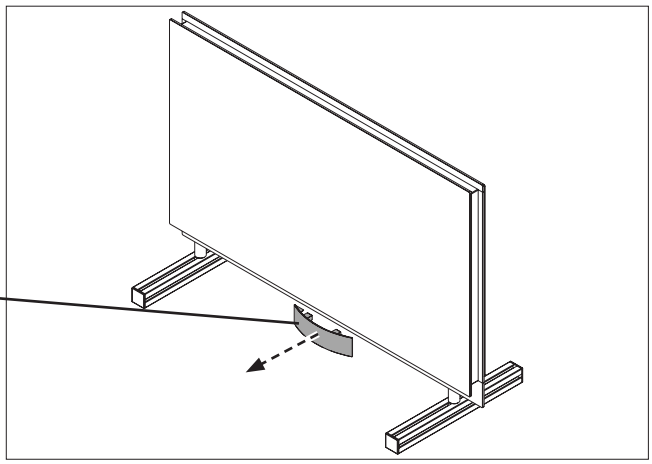
☞ 5.5 BeoVision 7-32 in service position

- Remove DVD touch panel

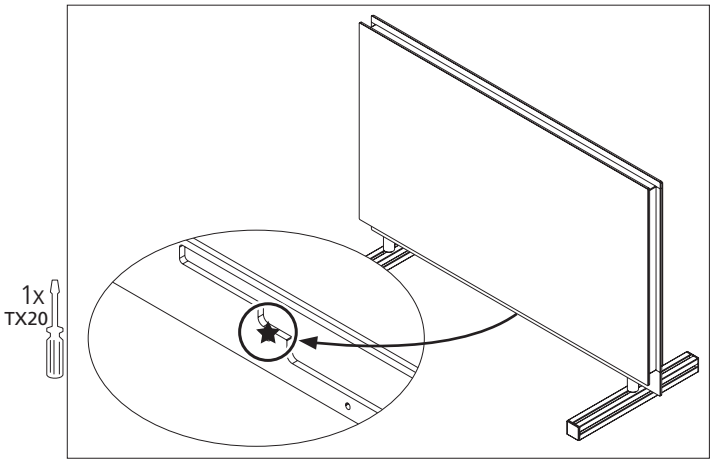


- Remove DVD front cover, by releasing the snaplocks



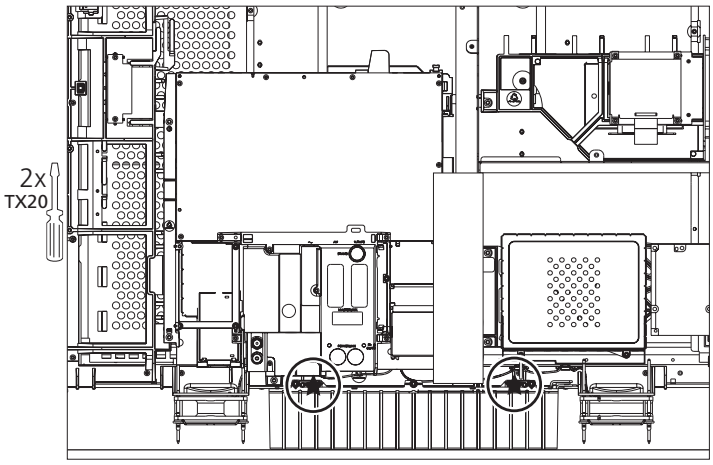


- Remove screw at DVD loader

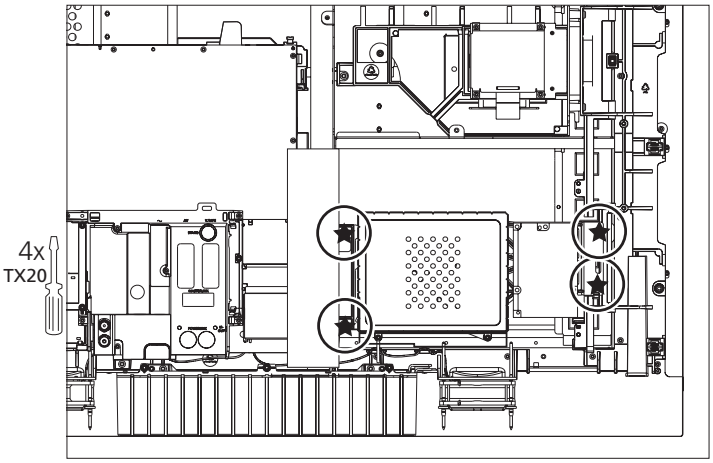


☞ 5.8 Right chassis in service position

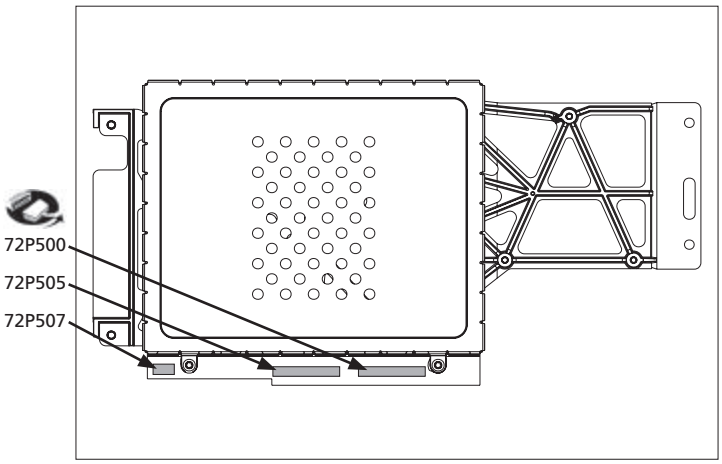
- Remove screws



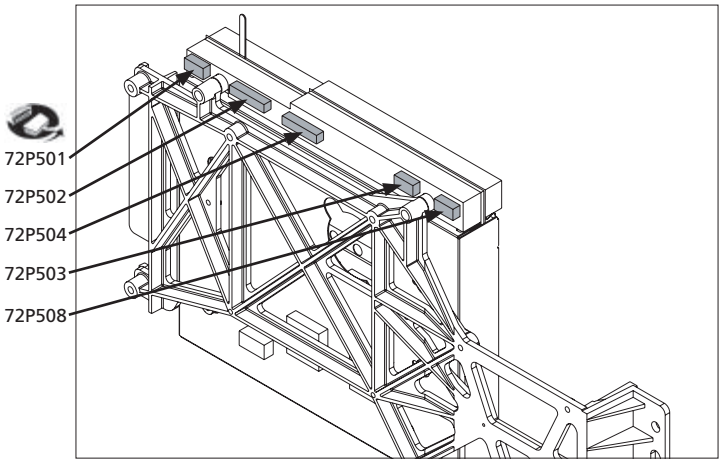
- Remove screws



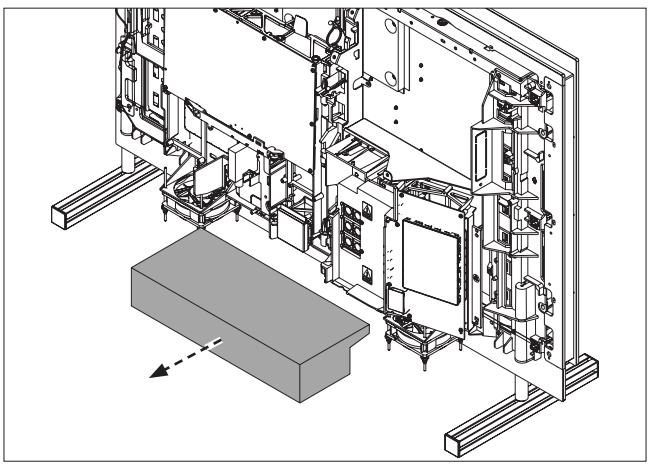
- Remove plugs on front of 997 Module



- Remove plugs on rear of 997 Module



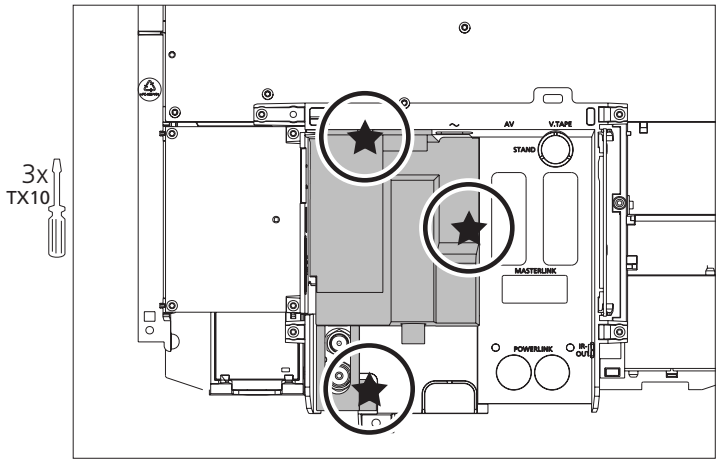
- Pull out DVD mechanism



☞ 5.5 BeoVision 7-32 in service position

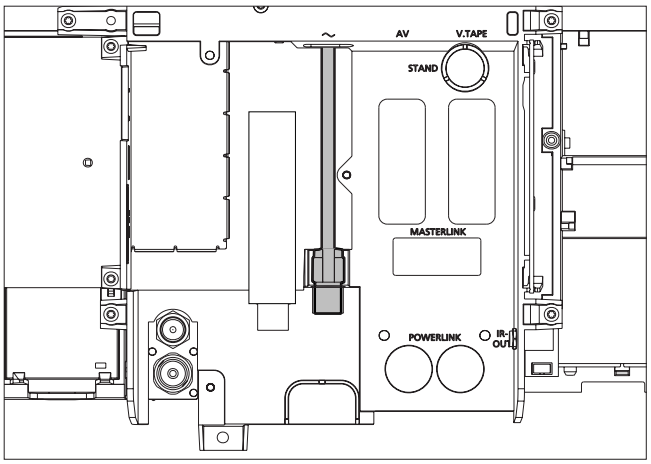
➢6

- Remove cover



➢7

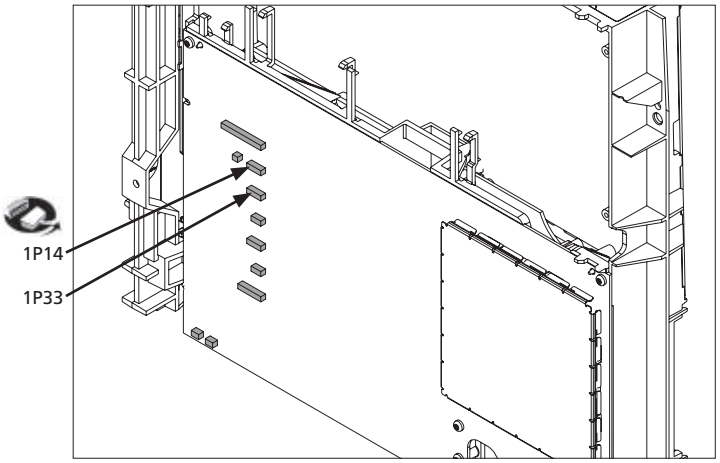
- Remove aerial cable for DVB-S



☞ 5.7 Left chassis in service position

➢8

- Remove cables on PCB1 for DVB-S

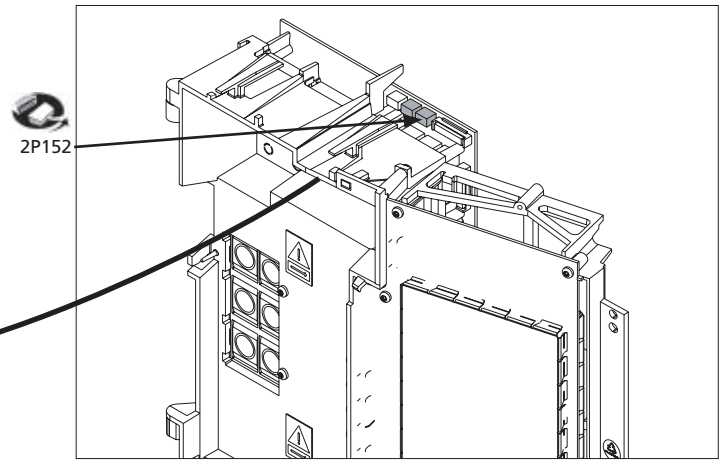


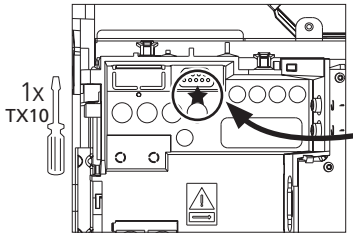
➢9

- Remove cable on PCB2 for DVB-S

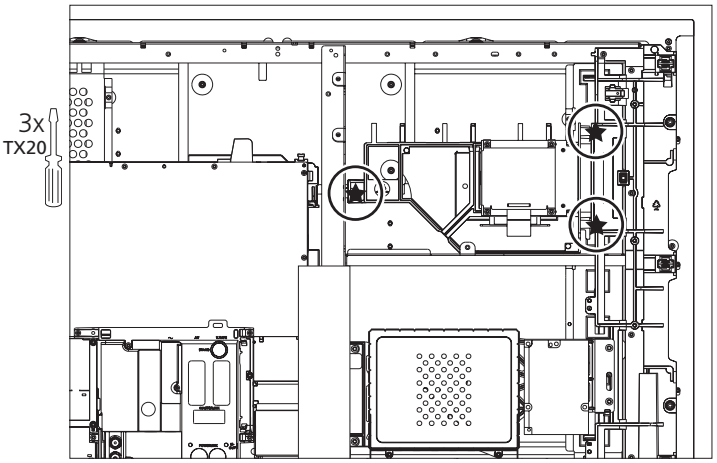
➢10

- Remove Data cable for DVB-S



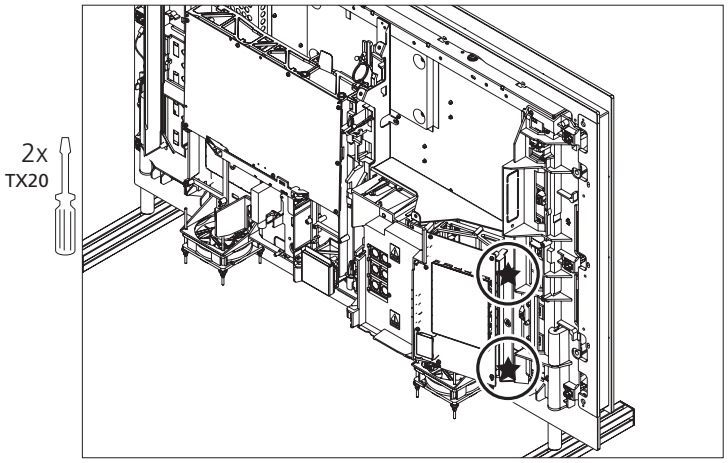


➢11
- Remove screws and pull out DVB-S

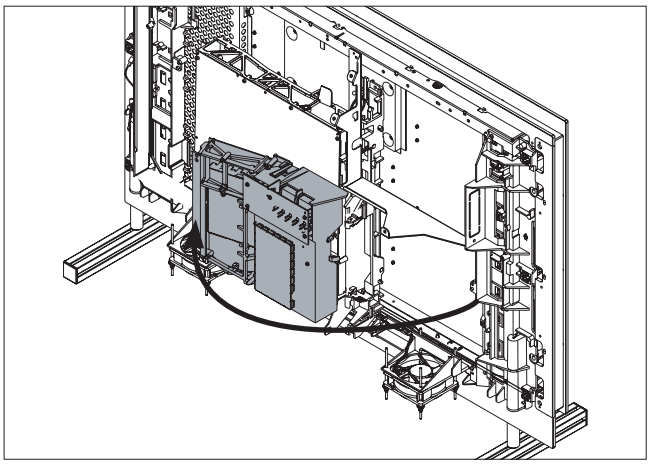


☞ 5.5 BeoVision 7-32 in service position

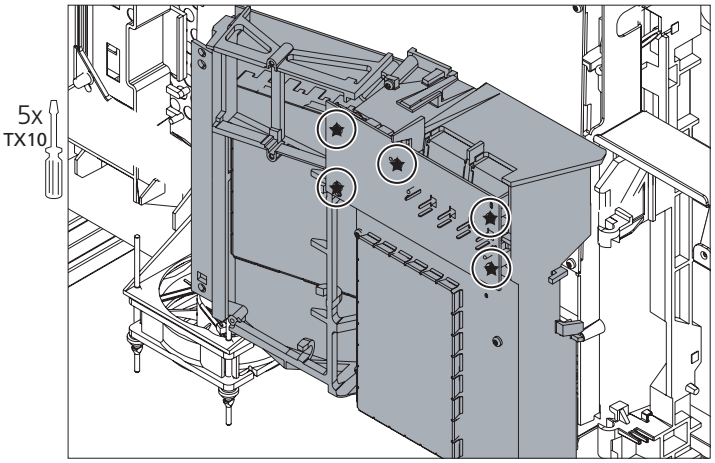
- Remove screws



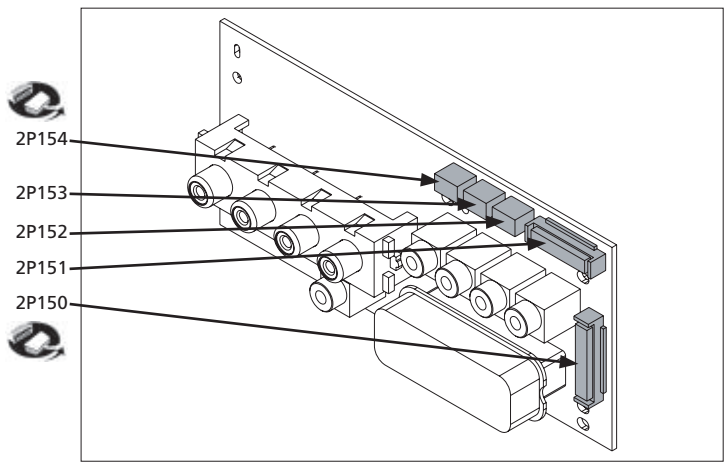
- Pull out right chassis 180°



- Remove screws

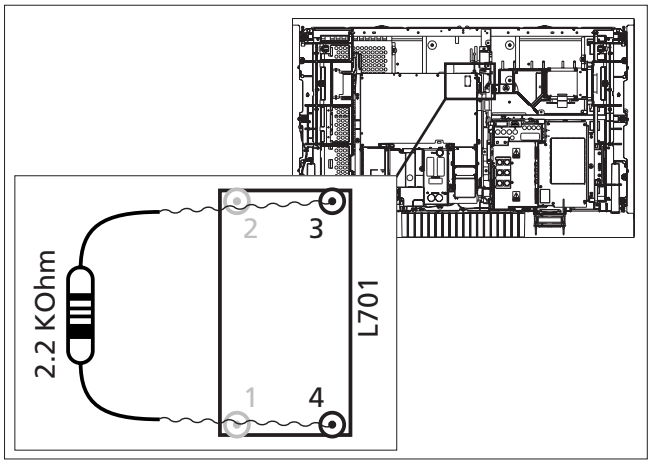


- Remove plugs

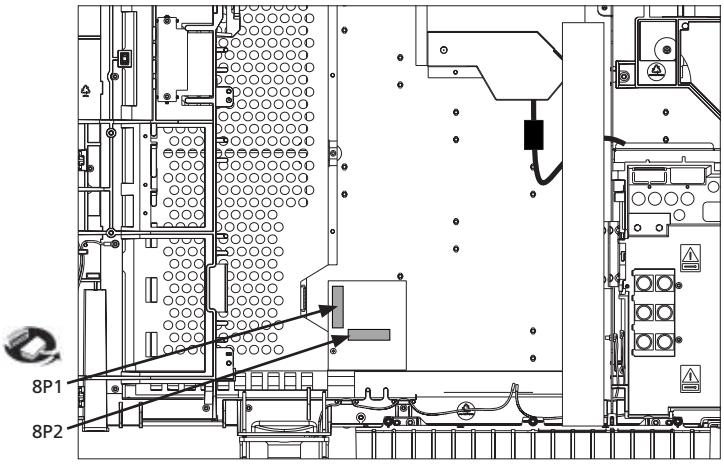


☞ 5.5 BeoVision 7-32 in service position
Short-circuit pin 3 and 4, LCD power supply, as shown. If not, you will damage the LCD panel!

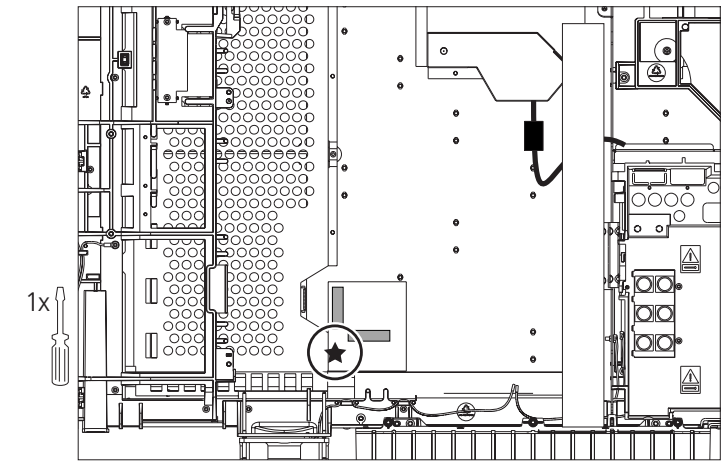
☞ 5.7 Left chassis in service position



- Remove plugs at PCB8

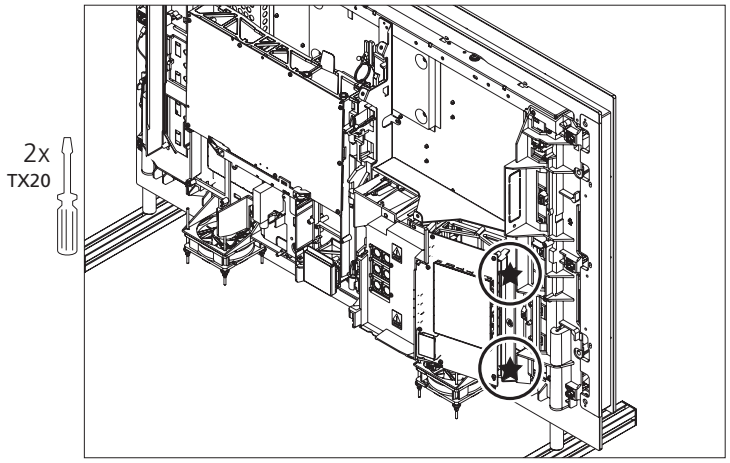


- Remove screw

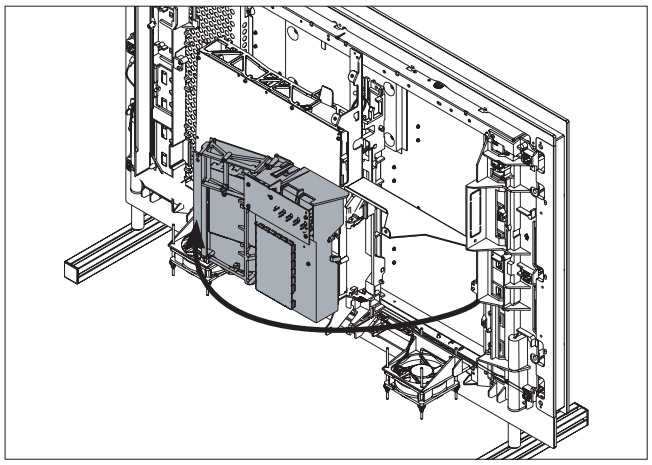


☞ 5.5 BeoVision 7-32 in service position

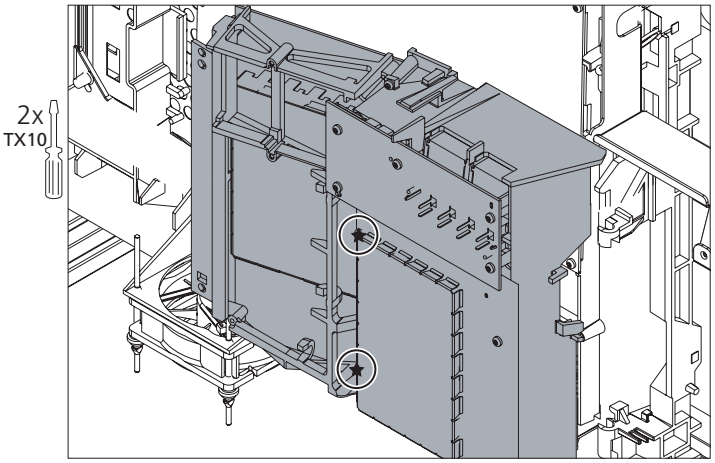
- Remove screws



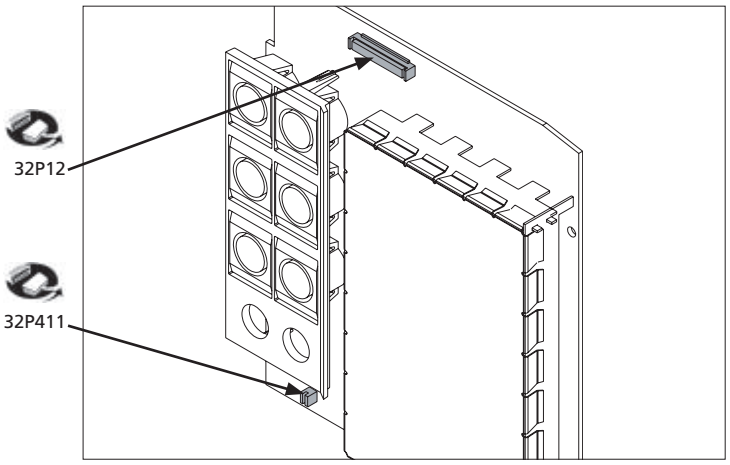
- Pull out right chassis 180°



- Remove screws

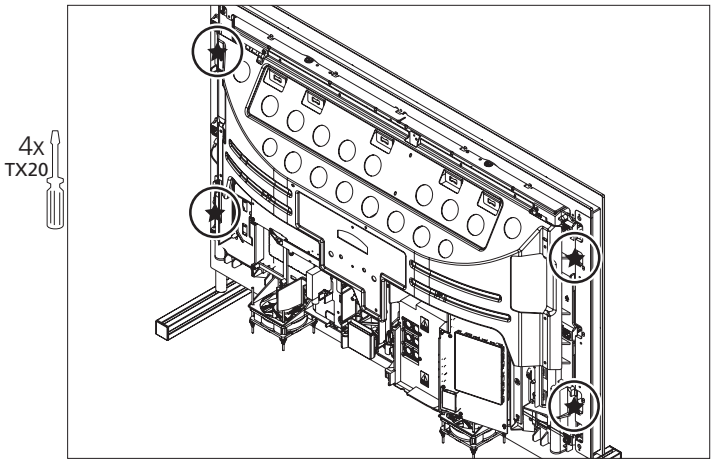


- Remove plugs

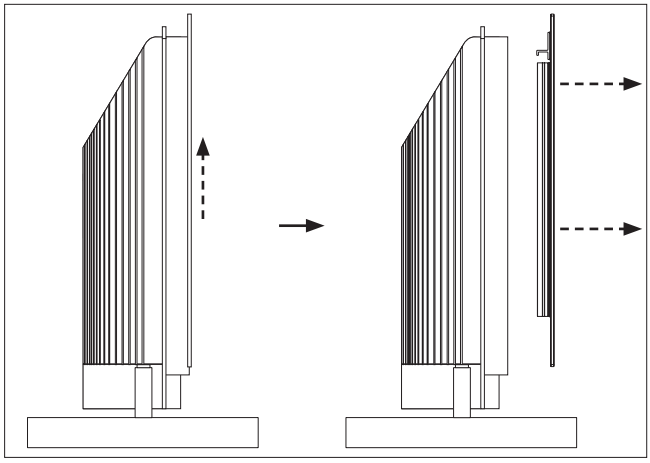


☞ 5.5 BeoVision 7-32 in service position
Fig. ➢1 – ➢5

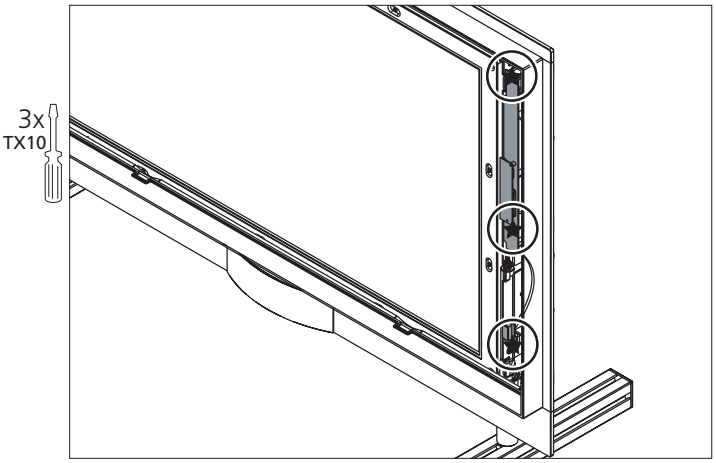
- Remove screws



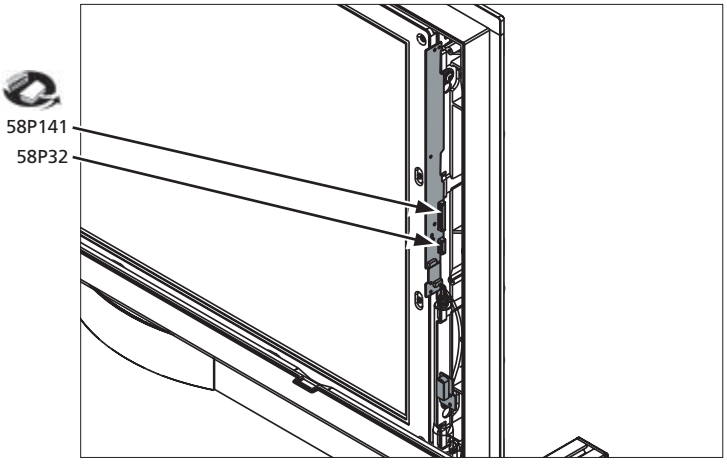
- Lift and pull of contrast screen



- Remove screws

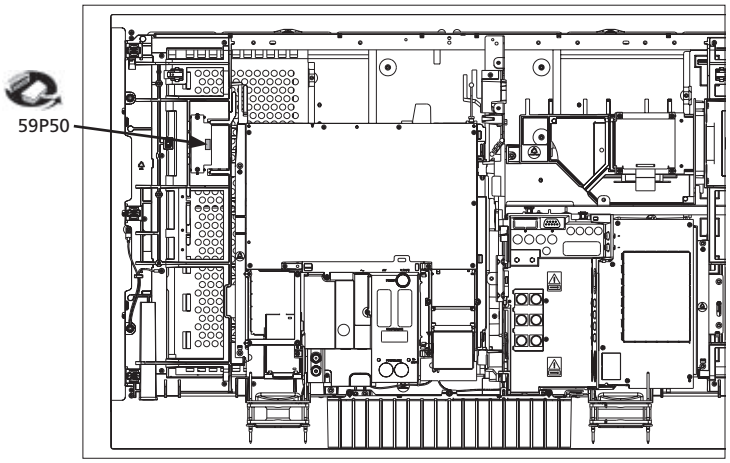


- Remove plugs

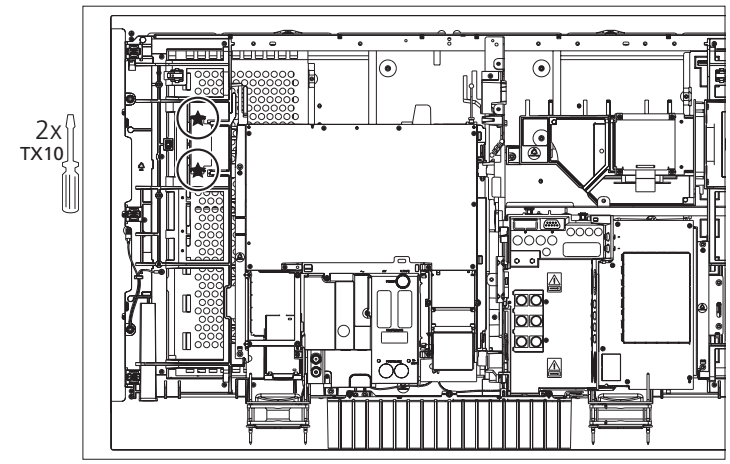


☞ 5.5 BeoVision 7-32 in service position

- Remove plug



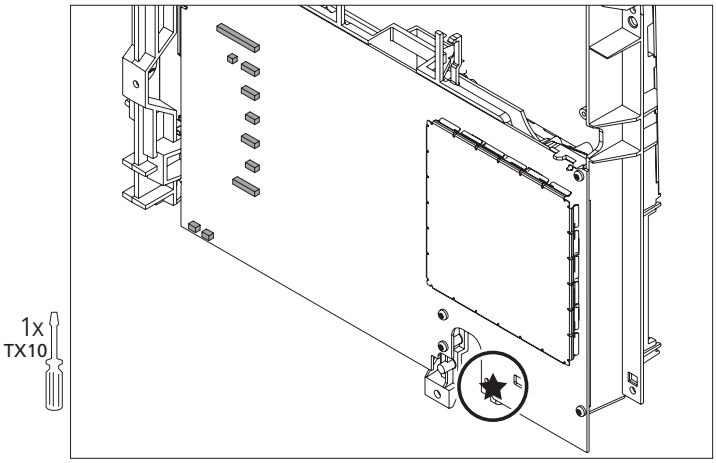
- Remove screws



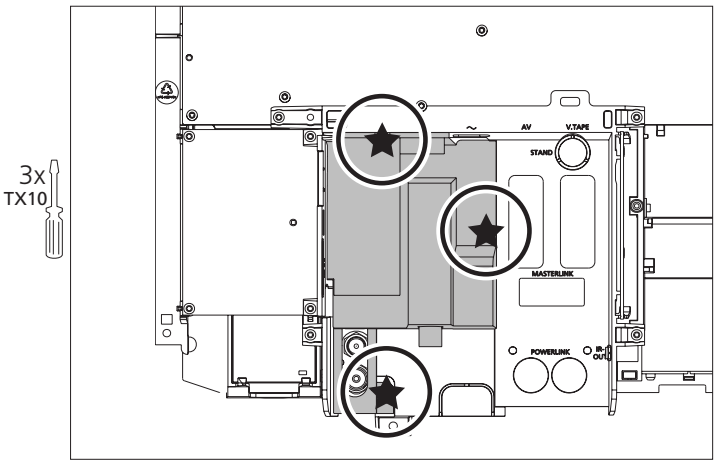
☞ 5.5 BeoVision 7-32 in service position

☞ 5.7 Left chassis in service position

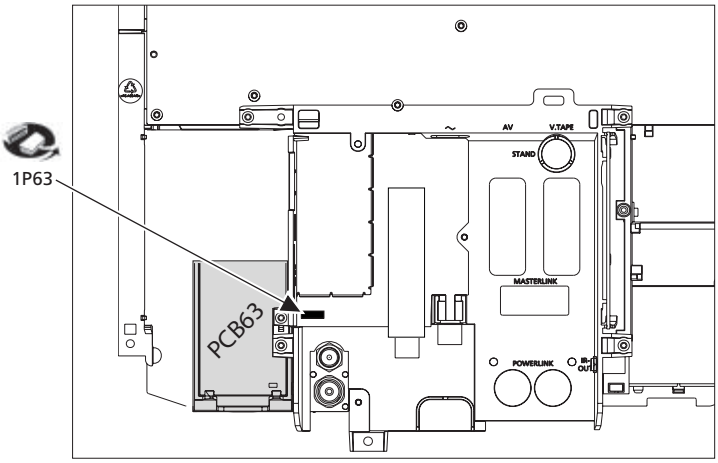
- Remove screw



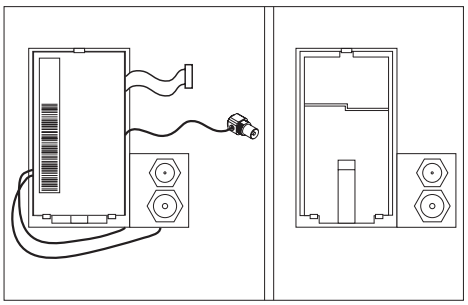
- Remove cover

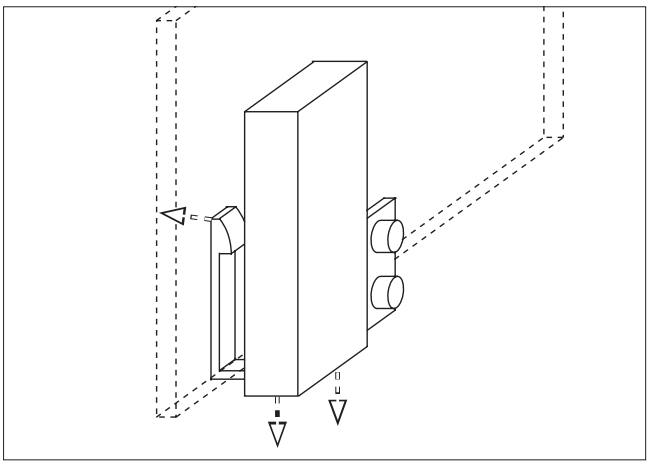


- Remove plug



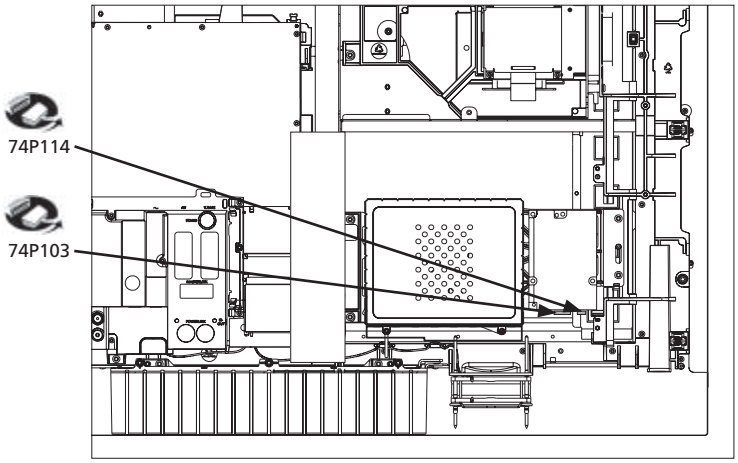
- Remove modulator



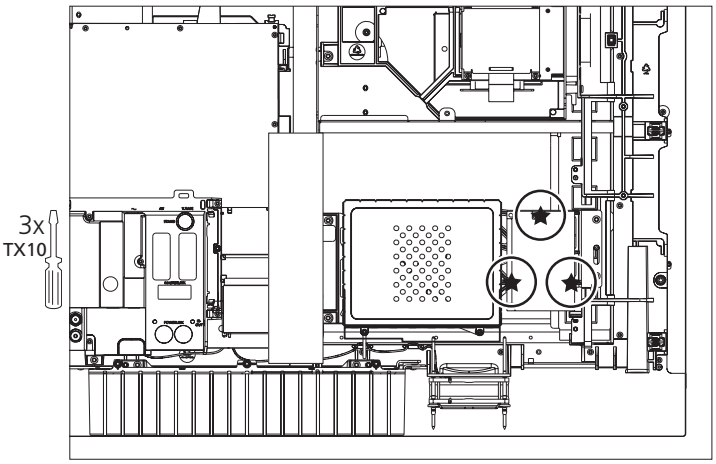


☞ 5.5 BeoVision 7-32 in service position
☞ 5.8 Right chassis in service position

- Remove plugs

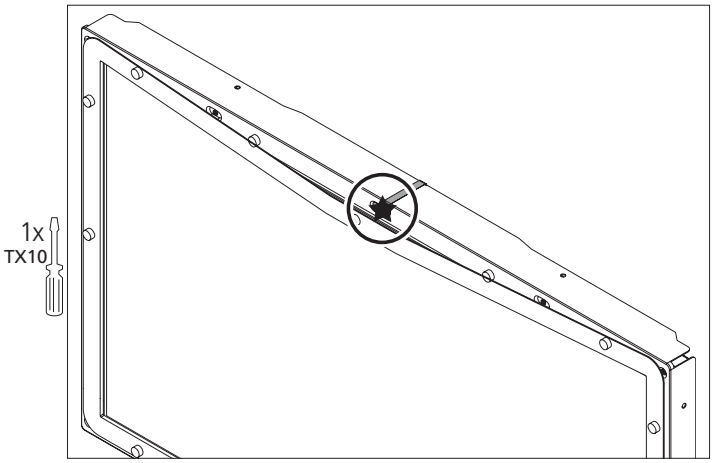


- Remove screws



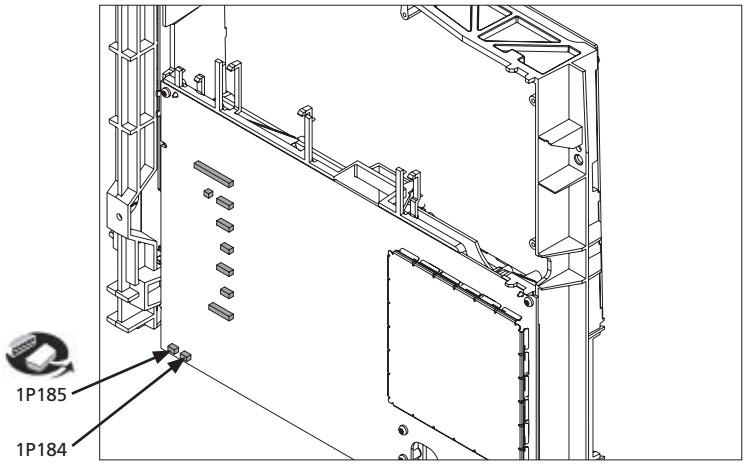
☞ 5.5 BeoVision 7-32 in service position
☞ 5.10 Remove LCD display

- Remove screw behind gasket

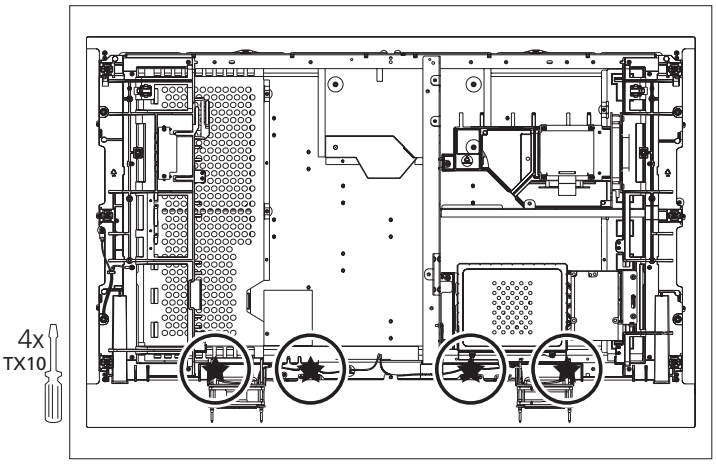


☞ 5.5 BeoVision 7-32 in service position
☞ 5.18 Remove DVD mechanism

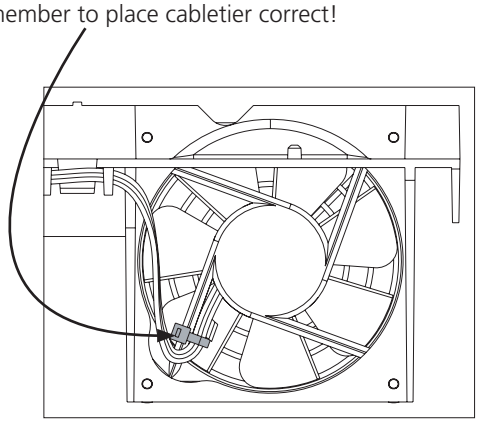
- Remove cables for fan

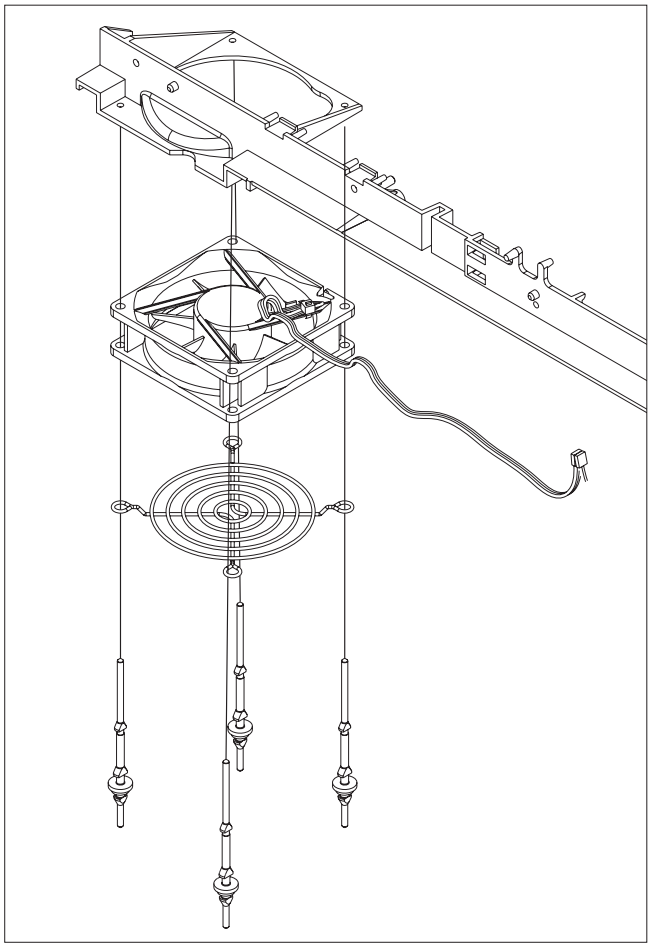


- Remove screws

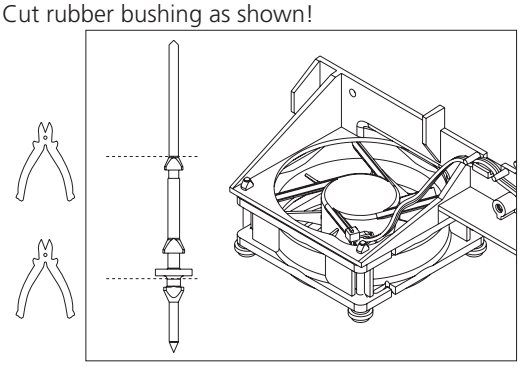


- Mount new fan on bracket
- Remember to place cabletier correct!





- Cut rubber bushing as shown!



SPECIFICATION GUIDELINES FOR SERVICE USE	BeoVision 7 – 32
CTV system	*See type survey
Cabinet finish	Black/aluminium
LCD	32" 16:9 TFT LCD
Resolution	1366 x 768 pixels
Display colours	16.7 mio. (true)
Luminance of white (center of screen)	Typical 450 cd/m2
Contrast ratio (center of screen)	Typical 1000:1 (min. 700:1)
Response time	Typical 8 msec. (falling) 16 msec. (rising)
Viewing angle	Typical 85 degrees (min. 75 degrees) both vertical and horisontal
Contrast screen	Anti-reflex coated
Picture Formats	Format 1:16:9 Panorama - 15:9 Panorama (4:3 only activevia setup in
	Service Mode)
	Format 2: Letterbox + Soft Scroll
	Format 3: 16:9
	Automatic format optimization via "Black Bar Detection"
	16:9 detection on all scart connectors
	Support of WSS (Wide Screen Signalling pulses) from broadcaster
Options	0, 1, 2, 4, 5, 6
Vision Clear	Automatic Picture Control
	Luminance Transient Improvement
	Comb Filter
	Vertical Peaking
	Motion Compensated Film Mode
	Automatic Picture Control
	Digital Adaptive Noise Reduction
	Digital Colour Transient Improvement
	Digital Adaptive Dynamic Luminance Peaking
	Blue Strech
	Adaptive Black
Operation	Beo4 remote control (included)
Menu languages	English, Danish, Dutch, Spanish, Swedish, German, French, Italian
PIN-code protection	With pin-code or disabled
Tuning	Autotune, program move and automatic naming
Tuner range	45 - 860 MHz: VHF, S-band, Hyper-band, UHF
No. of TV programmes	99, auto naming
	8 Program Groups
Teletext	Teletext level 2½, approx. 2000 pages
	17 teletext character sets in 7 groups
	Wide Screen Signalling (WSS)
	VPT (video Programming by Teletext)
	9 memory pages per program
Stereo decoders	A2 + NICAM
Stand turning function	±37 degrees, remote operated
System modulator	
	Splitter/System modulator output to Link Room
	(BeoLink Video Distribution)
Frequency range	479 - 831 MHz (in 1 MHz step), Dual side band
Audio	Mono
	According to type : FM sound system G : 5.5MHz, FM sound system I : 6MHz
Connection	1 x 75 ohm aerial male

DSM (Digital Surround Sound module)		
Decoding capabilities	Dolby® Digital 5.1 channel decoding	
	Dolby® Pro-Logic decoding of two channel Dolby® Digital	
	Dolby® Pro-Logic decoding of two channel PCM	
	Dolby® Pro-Logic decoding of two analogue channels (Lt/Rt)	
	Automatic format detection (Dolby® Digital, DTS and PCM)	
Calibration	3 channel tone control & loudness (L/C/R)	
	Bass management, Delay management	
Sound modes (Speaker 1 - 5)	Sound mode 1	: Stereo center speakers (Subwoofer muted)
	Sound mode 2	: Stereo in L/R speakers, Subwoofer is active
	Sound mode 3	: Dolby® 3 stereo
	Sound mode 4	: Dual stereo, stereo in L/R front & rear speakers, Subwoofer is actve
	Sound mode 5	: Dolby® digital, Dolby® Pro-logic, DTS

Connections	
Digital audio input (A1 - A4)	4 x Coax phono
External Beolab loudspeakers	8 x Power Link

DVD	
Disc sizes	12 cm - 5”
Frequency range	20Hz - 20kHz
Playback the following	DVD-Video, Video CD, CD-DA, CD-R, CD-RW,CD-MP3 Multistandard PAL/NTSC
Signal-to-noise-ratio	Typical 100dB, A weighted, in Audio mode
DVD Region	According to type (see type survey)

Optional	
Digital Satellite module (DVB-S)	Will be launched later
BeoLab 7-1 (Aluminium/Black)	6210/6212 depending on market
Table Stand (black)	4097 (part no. 1409766)
Motorised Table Stand (aluminium)	4092 (part no. 1409211)
Motorised Floor Stand (aluminium)	4091 (part no. 1409111)
Wall Bracket (incl. speakermounting) - close (aluminium)	4095 (part no. 1409511)
Wall Bracket (incl. speakermounting) - deep (aluminium)	4096 (part no. 1409611)

Dimensions W x H x D/Weight	882 x 566 x 159 mm + stand/30 kg

Power consumption	Typical 152 watts, St By 1 watt

CONNECTIONS		
MASTER LINK	Pin 1	Data- -0.4V ±0.1V
	Pin 2	Data+ +0.4V ±0.1V
	Pin 3	ML sense
	Pin 4-8	N.C.
	Pin 9	ATI transmit
	Pin 10	ATI receive
	Pin 11	-supply voltage -7V to -15V (in St By -3V to -15V)
	Pin 12	+supply voltage +7V to +15V (in St By +3V to +15V)
	Pin 13	Audio -L 1V Bal, Rin 2.2Mohms, Rout 75ohms
	Pin 14	Audio +L 1V Bal, Rin 2.2Mohms, Rout 75ohms
	Pin 15	Audio -R 1V Bal, Rin 2.2Mohms, Rout 75ohms
	Pin 16	Audio +R 1V Bal, Rin 2.2Mohms, Rout 75ohms

POWER LINK	Pin 1	PL ON => 2.5V, OFF =< 0.5V
	Pin 2	Signal GND
	Pin 3	Audio L out 0V - 6.5V RMS
	Pin 4	PL speaker ON => 2.5V, OFF =< 0.5V
	Pin 5	Audio R out 0V - 6.5V RMS
	Pin 6	Data: High >3.5V, Low <0.8V
	Pin 7	Data GND
	Pin 8	Not used
		(Pin 3 and 5 are connected in the SUBWOOFER socket)

AV1, AV2 & AV3	Pin 1	Audio R out 1V RMS 150 ohms (N.C. on AV3)
	Pin 2	Audio R in 1V RMS 40 kohms
	Pin 3	Audio L out 1V RMS 150 ohms (N.C. on AV3)
	Pin 4	Audio GND
	Pin 5	Blue GND
	Pin 6	Audio L in 1V RMS 40 kohms
	Pin 7	Blue in 0.7 Vpp 75 ohms
	Pin 8	Play voltage: Logic 0 = 0V to 2V
		Logic 1 = 9.5V to 12V (4:3 info)
		5V to 7V = 16:9 info
		AV1 Data in/out
		AV2 & AV3 Data out
	Pin 9	Green GND
	Pin 10	Not used
	Pin 11	Green in 0.7 Vpp 75 ohms
	Pin 12	Not used
	Pin 13	Red GND
	Pin 14	Blanking GND
	Pin 15	Red in 0.7 Vpp 75 ohms – is also used for C in (not on AV3)
	Pin 16	Blanking in Logic 0 = 0V to 0.4V
		Logic 1 = 1V to 3V
		R in 75 ohms
	Pin 17	Video out GND
	Pin 18	Video in GND
	Pin 19	Composite video out 1 Vpp 75 ohms (N.C. on AV3)
	Pin 20	Composite video in 1 Vpp 75 ohms – is also used for Y in (not on AV3)
	Pin 21	Shield
CAMCORDER		
VIDEO	Composite video in 1Vpp 75 ohms auto detection	
L & R	Audio L & R in 0.2V - 2 V RMS >10 kohms	
PHONES	Ø 3.5 mm 8 - 32 ohms	
IR CONTROL OUT, Set-top Box Controller (C1 - C4)	4 x Mini jack	
IR IN	Mini jack for external IR receiver	
TV	1 x aerial 75ohms	
Modulator	1 x aerial 75ohms aerial male	
PC input	DVI-I connector / Phono: Composite video in 1Vpp 75 ohms & Audio L-R in 0.2 - 2V RMS > 10 kohms	
STAND	Pin 1	GND
	Pin 2	Turn Left < 1.4V
	Pin 3	Turn Right < 1.4V
	Pin 4	Stand Position feedback 0 - 5V pulses
	Pin 5	14V supply

Subject to change without notice

Type survey

					Modification to other TV systems		
Type	DVD Region	System	Modulator	Market	B/G	B/G,L/L',D/K,I	B/G,M,D/K,I
9311	2	B/G	G	NEU Austria, Belgium, Croatia, Denmark, Finland, Germany, Greece, Holland, Israel, Italy, Kuwait, Norway, Oman, Portugal, Slovenia, Spain, Sweden, Turkey, United Arab Emirates		8053062	8053065
9312	3	B/G	G	NEU Indonesia, Malaysia, Singapore, Thailand		8052018	8052019
9313	3	M,I,D/K	I	HK Hong Kong	2*	8053064	2*
9314	2	I	I	GB South Afrika, UK	1*	1*	8053066
9315	4	B/G	G	AUS Australia, New Zealand		8053062	8053065
9316	2	B/G,D/K	G	EEU Czech Repub., Hungary, Poland, Slovak Rep.	1*	1*	8053065
9317	5	B/G,D/K	G	EEU Russia, Morocco	1*	1*	8053065
9318	2	B/G,L/L',I	G	FGB Bahrain, Egypt, France, Lebanon, Qatar, Saudi Arabia, Switzerland	1*	1*	8053065
9320	6	M,I,D/K	I	CN China	2*	8053066	2*

1* Can be set to B/G, L/L', D/K and I.
2* Can be set to B/G, M, D/K and I.

The TV system is set in the TV Service Menu

			Available TV systems				
TV chassis	Modulator system	Chassis in type	B/G	L/L'	M	D/K	I
8053061	G	9311 9312 9315	x				
8053066	I	9313 9320	x		x	x	x
8053062	G	9316 9317 9318	x	x		x	x
8053064	I	9314	x	x		x	x

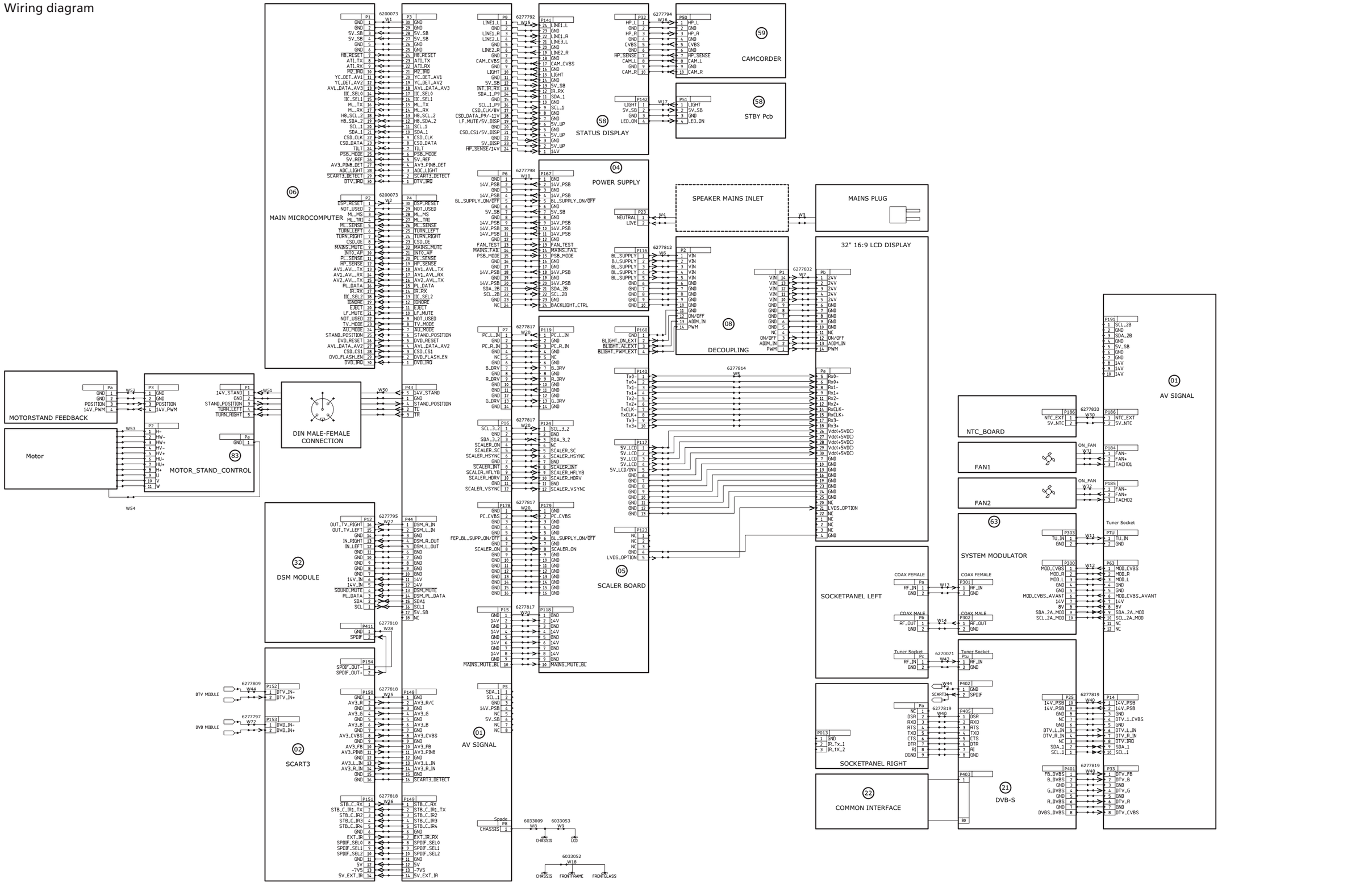
Modification to other TV systems either by means of chassis exchange or change the setting in the TV Service menu, may cause limitations in functionality due to the modulator system G or I.

All types mentioned are equipped with PAL/SECAM/NTSC colour decoder.

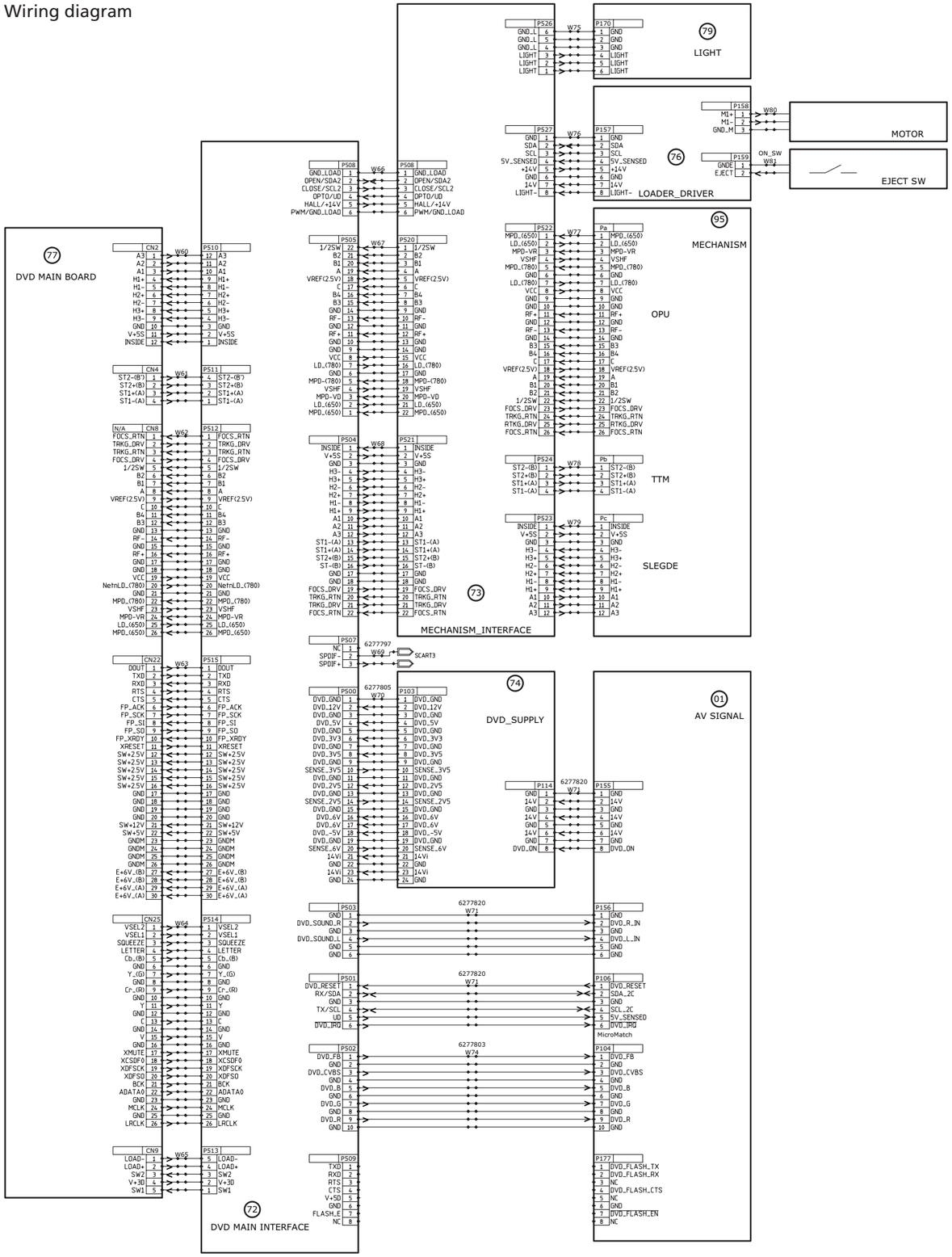
DVD Region

The DVD Region can be changed using ServiceTool.

Wiring diagram

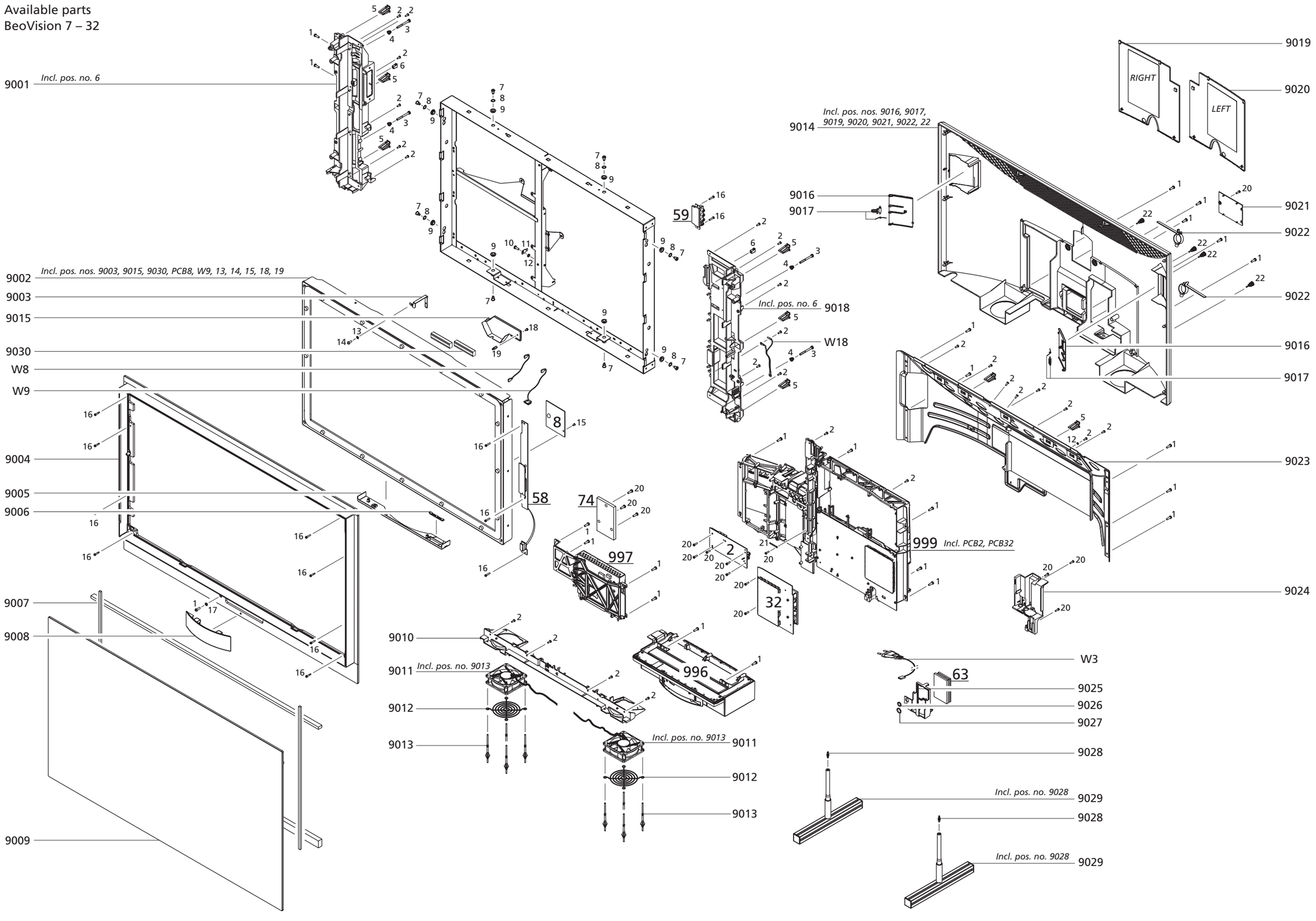


Wiring diagram



8.1 Available parts

Available parts
BeoVision 7 – 32



BeoVision 7 – 32

9001	3151312	Bracket, left incl. pos. no. 6	9017	2810022	Set of hinge and spring
9002	8200031	LCD, incl. pos. nos. 9003, 9015, 9030, PCB8, W9, 13, 14, 15, 18, 19	9018	3151315	Bracket, right incl. pos. no. 6
			9019	3160050	Cover f/socket panel, right
			9020	3160070	Cover f/socket panel, left
9003	8003003	PCB NTC			
9004	3320844	Front frame	9021	3160074	Cover f/SW
9005	3131042	DVD touch panel	9022	3152641	Cable holder
9006	2776193	Eject, button	9023	3151857	Reinforcement bracket f/rear cover
9007	3340265	Gasket f/LCD, set			
9008	3451115	DVD front cover	9024	3160338	Cover f/connection panel
9009	3451076	Contrast screen			
9010	3151046	Bracket f/fan	9025	3151706	Holder
9011	8410004	Fan incl. pos. no. 9013	9026	2380170	Nut f/ant. plug
9012	3444004	Grille	9027	2380185	Nut f/female ant. plug
9013	3907001	Rubber bushing	9028	3151362	Snaplock
9014	3431475	Rear cover incl. pos. nos. 9016, 9017, 9019, 9020, 9021, 9022, 22	9029	3375114	Service stand , 2 pcs., incl. pos. no. 9028
			9030	3300038	Gasket
9015	3160097	EMC cover			
9016	3160048	Cover f/DVB-S/ Camcorder			

W3	6100325	Mains lead w/filter	W8	6033009	Wire f/chassis
	6100404	Mains lead GB	W9	6033053	Wire f/LCD
	6100248	Mains lead AUS	W18	6033052	Wire f/front frame
	6100037	Mains lead CHN			

2Module	8003004	PCB2, Scart 3

6Module		PCB6, Main microcomputer
6IC3&6IC4	8344431	SW EPROM
6IC6	8343712	EEPROM

PCB6 Main microcomputer is not available as spare part

8Module	8002065	PCB8, Decoupling

32Module	8003005	PCB32, DSM
32IC607	8344439	Software
	3151797	Holder f/sockets

58Module	8002064	PCB58, Status Display

59Module	8000886	PCB59, Camcorder

63Module	8000521	PCB63, Modulator system G
	8000522	PCB63, Modulator system I

74Module	8001225	PCB74, DVD Supply

996Module	8053068	DVD Mechanism, consists of PCB73, PCB76, PCB79, PCB95

997Module	8053067	DVD Main chassis, consists of PCB72, PCB77

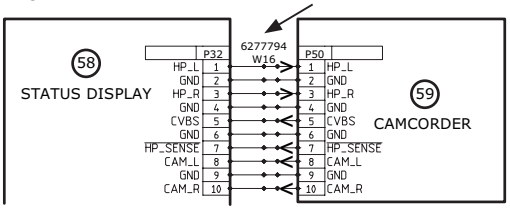
999Module		Main chassis consist of PCB1, PCB2, PCB4, PCB5, PCB6, PCB32, PCB63
	8053061	Main chassis, system BG w/G modulator
	8053065	Main chassis, system BGMIDK w/G modulator
	8053066	Main chassis, system BGMIDK w/I modulator
	8053062	Main chassis, system BGLL'IDK w/G modulator
	8053064	Main chassis, system BGLL'IDK w/I modulator

Survey of screws, washers etc.

1	2019021	Screw 4 x 12mm	12	2625002	Washer
2	2042061	Screw 3 x 8mm	13	2622030	Washer
3	2033002	Screw 4 x 45mm	14	2058087	Screw 3 x 8mm
4	2816050	Spring	15	2044003	Screw 3 x 6mm
5	2930009	Clips	16	2013159	Screw 3 x 14mm
6	2810336	Push lock	17	2625003	Washer
7	2044000	Screw	18	2038118	Screw 3 x 6mm
8	2622009	Washer	19	2930033	Spacer
9	2930002	Decoupling	20	2013137	Screw 3 x 10mm
10	2042061	Screw 3 x 8mm	21	7530119	Soldertab cabletie
11	7500003	Connector	22	2930169	Rubber bushing

Wire bundles

See wiring diagram page 7.1 and 7.2.
The part no. is printed on the diagram above the wire bundle, as shown.



Parts not shown

6270077	Cable PL 0.5m (4 cond.) MKIII Black
8330352	IR blaster f/external sources
3375081	Product cover
3375114	Service stand
3395252	Back-up suitcase, system BG w/G modulator
3395255	Back-up suitcase, system BGMIDK w/G modulator
3395256	Back-up suitcase, system BGMIDK w/I modulator
3395253	Back-up suitcase, system BGLL'IDK w/G modulator
3395254	Back-up suitcase, system BGLL'IDK w/I modulator

ServiceTool

3658964	ServiceTool CD-ROM
3375055	Interface tool box
3375151	USB - RS232 bridge

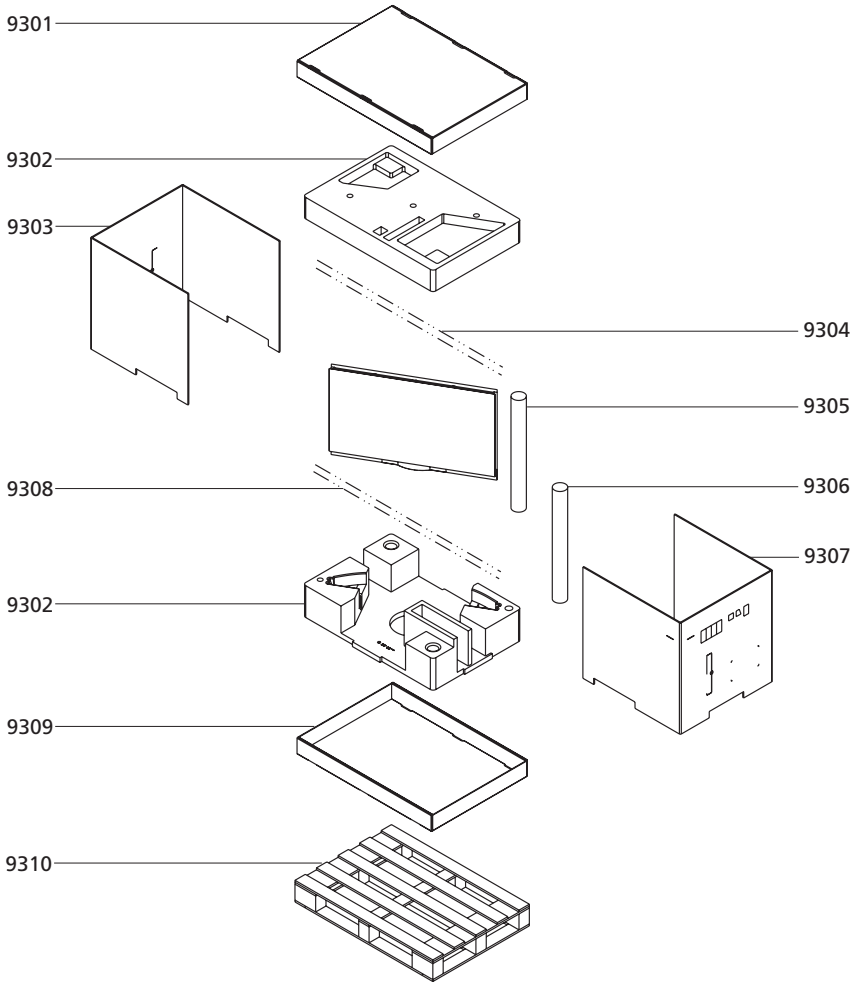
Accessories

See specification guidelines page 6.2

Available documentation

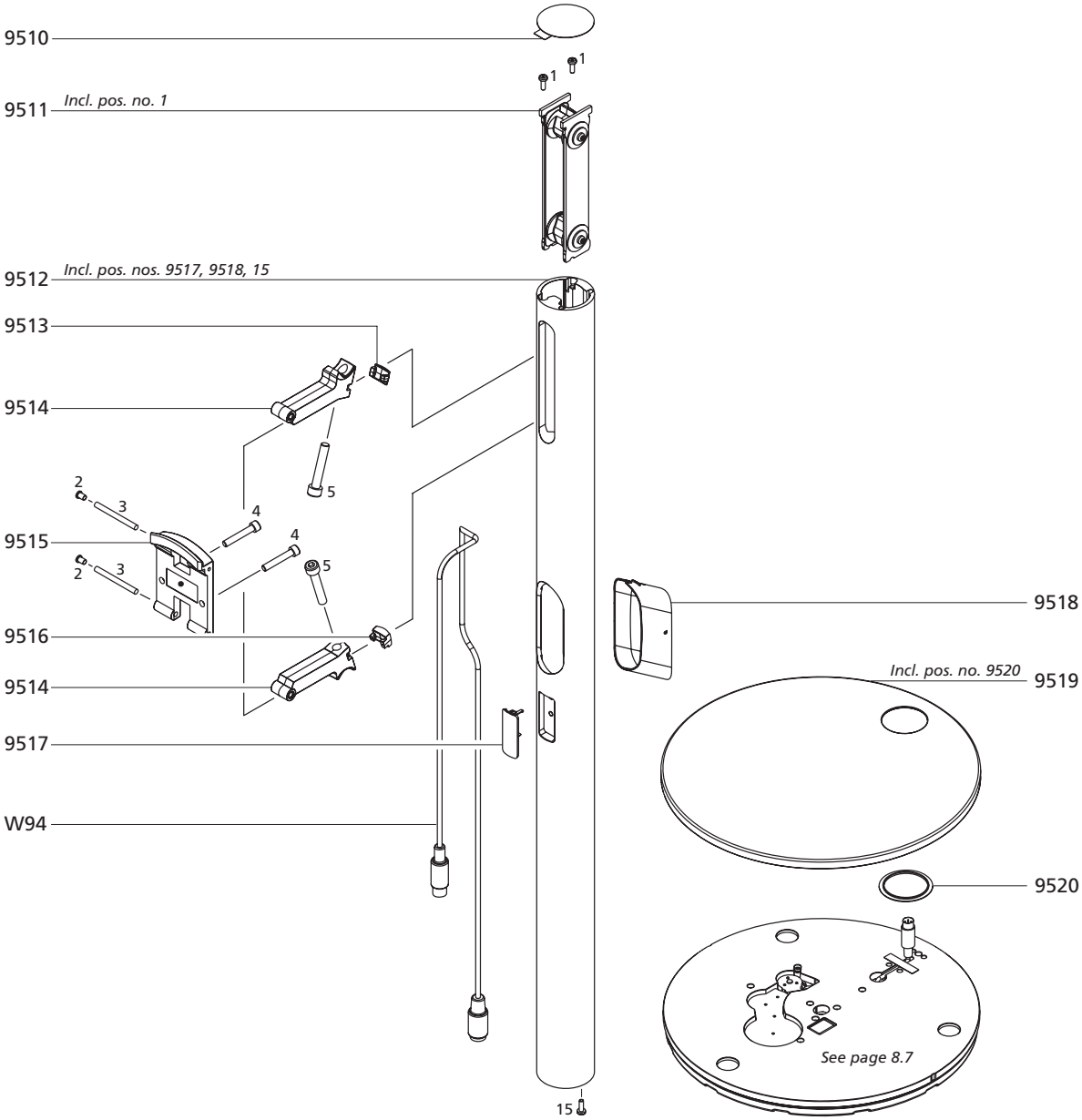
See Retail Ordering System

Packing



9301	3392038	Outer carton, top
9302	3396250	Foam packing, set of top and bottom
9303	3392040	Outer carton
9304	3917105	Foam foil
9305	3392200	Distance pipe
9306	3392200	Distance pipe
9307	3392040	Outer carton
9308	3917105	Foam foil
9309	3392038	Outer carton, bottom
9310	3392023	Wooden pallet
	3392024	Wooden pallet, heat treated
	3375424	Tip and tell

Floor stand 4091
1409111

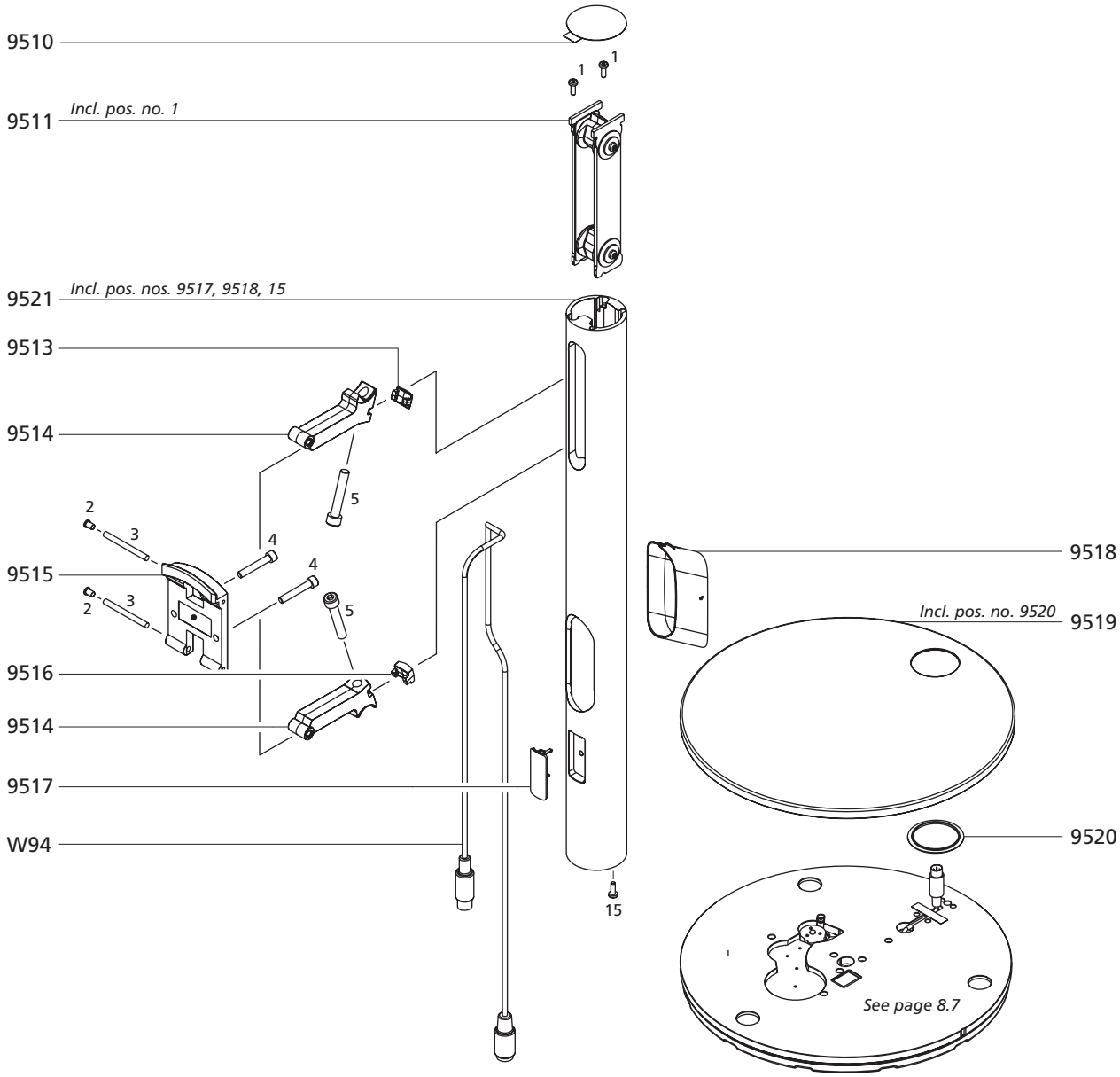


9510	3459468	Plate	9515	3151142	Bracket
9511	3130349	Tilt mechanism, incl. pos. no. 1	9516	3010057	Stopper, white
			9517	2950111	Cover
9512	2950115	Aluminium tube, incl. pos. nos. 9517, 9518, 15	9518	2950050	Conduit
			9519	3459470	Cover plate incl. pos. no. 9520
9513	3010058	Stopper, black			
9514	3151416	Arm	9520	2576017	Scratch shield

W94	6270113	Extension cable 5pole DIN male-female			
1	2015001	Screw 4 x 12mm	4	2058077	Screw 5 x 20mm
2	3341008	Plug	5	2058076	Screw 8 x 45mm
3	2830030	Needle	15	2015001	Screw 4 x 12mm

	3390012	Set of accessories
	3504771	Guide
	3396254	Foam - order 2 pcs.
	3392052	Outer carton
	2777038	Handle
	2777037	Handle, plate

Table stand 4092
1409211



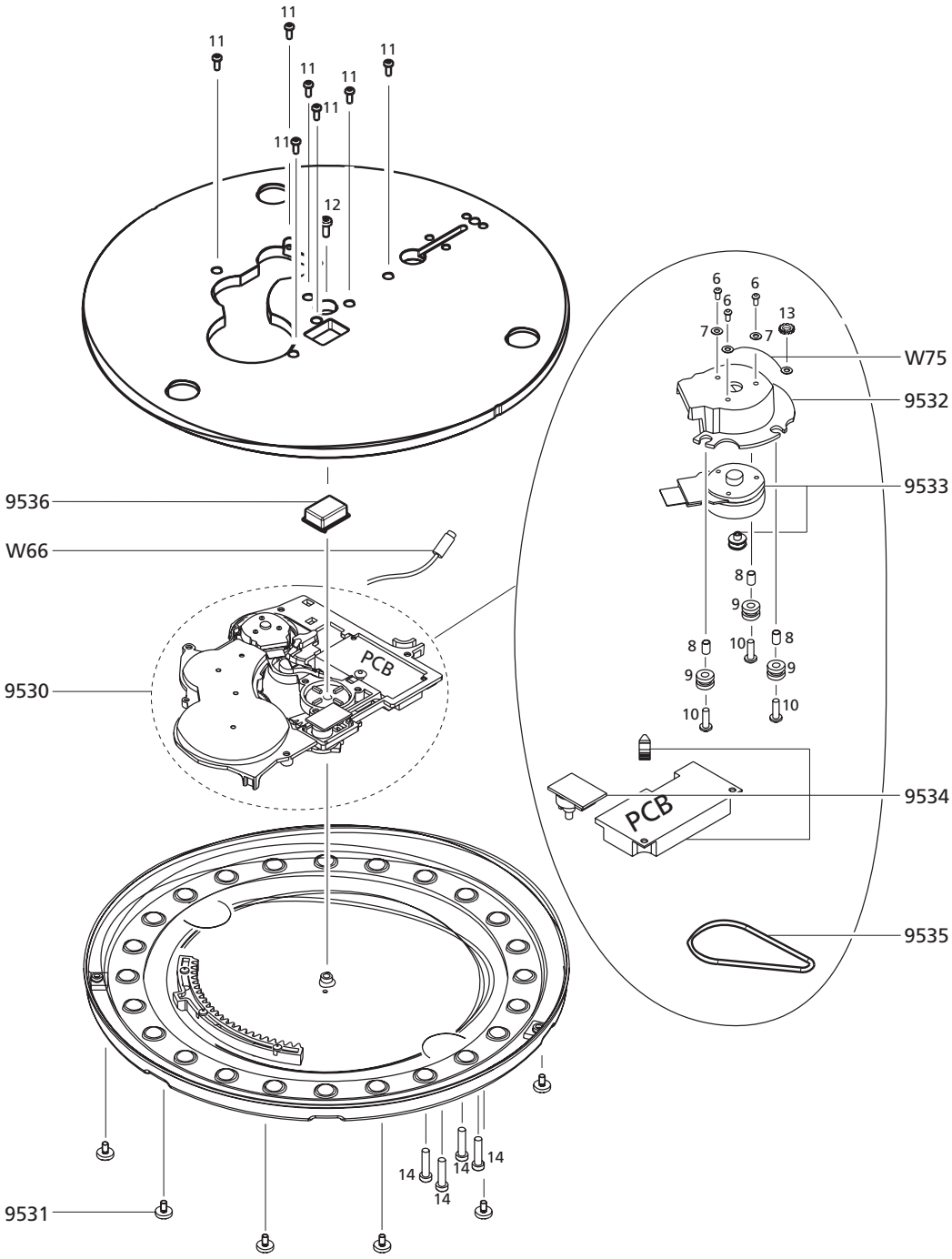
9510	3459468	Plate	9517	2950111	Cover
9511	3130349	Tilt mechanism, incl. pos. no 1	9518	2950050	Conduit
			9519	3459470	Cover plate incl. pos. no. 9520
9513	3010058	Stopper, black			
9514	3151416	Arm	9520	2576017	Scratch shield
9515	3151142	Bracket	9521	2950116	Aluminium tube, incl. pos. nos. 9517, 9518,
9516	3010057	Stopper, white			

W94	6270113	Extension cable 5pole DIN male-female

1	2015001	Screw 4 x 12mm	4	2058077	Screw 5 x 20 mm
2	3341008	Plug	5	2058076	Screw 8 x 45mm
3	2830030	Needle	15	2015001	Screw 4 x 12mm

	3390011	Set of accessories
	3504771	Guide
	3396253	Foam - order 2 pcs.
	3392050	Outer carton
	2777038	Handle
	2777037	Handle, plate

Turnable unit

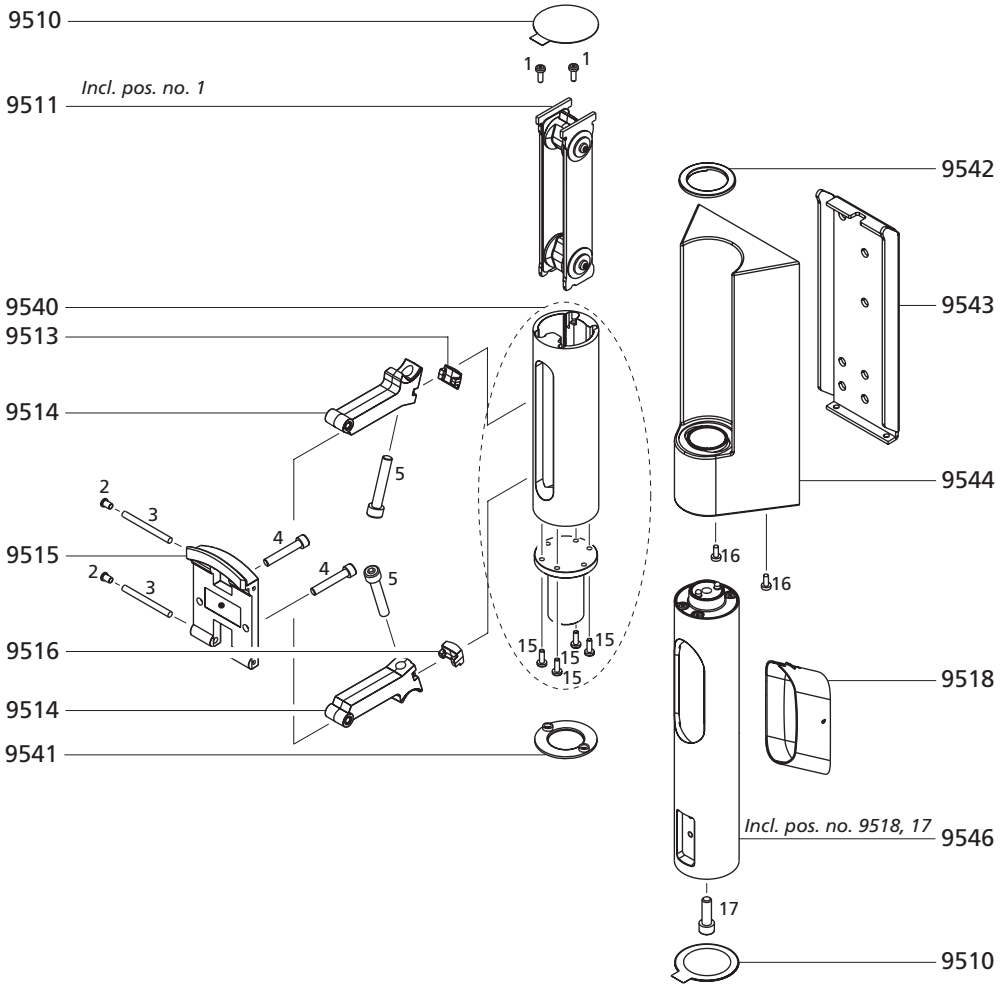


9530	2755011	Gear, complete	9534	8052028	PCB f/motor
9531	3390662	Bag w/6 x foot	9535	2732156	Belt
9532	3114003	Cover f/motor	9536	3114496	House
9533	8400004	Motor			

W66	6270109	Wire DIN 5 pole
W75	6277038	Ground wire

6	2033001	Screw 7 x 3.5mm
7	2622110	Washer
8	2930074	Bushing
9	2938306	Rubber bushing
10	2013156	Screw 2.5 x 8mm
11	2019020	Screw 4 x 10mm
12	2058074	Screw 5 x 12mm
13	2625003	Washer
14	2058079	Screw 6 x 25 mm

Wall bracket, close 4095
1409511

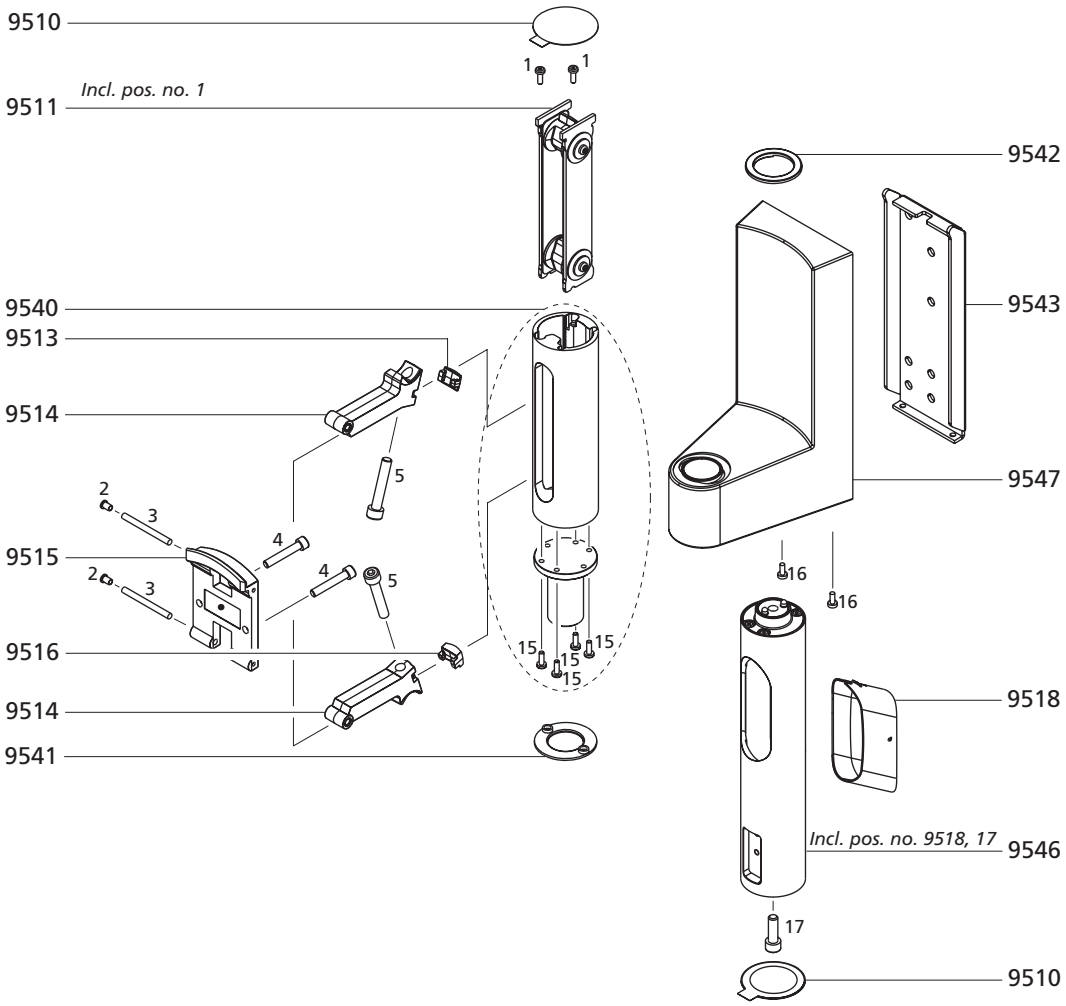


9510	3459468	Plate
9511	3130349	Tilt mechanism, incl. pos. no. 1
9513	3010058	Stopper, black
9514	3151416	Arm
9515	3151142	Bracket
9516	3010057	Stopper, white
9518	2950050	Conduit
9540	2950119	Alu. tube
9541	2620004	Friction disc, upper
9542	2620003	Friction disc, lower
9543	3031021	Mounting bracket
9544	3151819	Wall bracket
9546	2950120	Bracket f/loudspeaker inc. pos. no. 9518, 17

1	2015001	Screw 4 x 12mm
2	3341008	Plug
3	2830030	Needle
4	2058077	Screw 5 x 20mm
5	2058076	Screw 8 x 45mm
15	2015001	Screw 4 x 12mm
16	2043016	Screw 4 x 10mm
17	2058080	Screw 8 x 30mm

	3390010	Bag w/2 x screws f/TV, cable cover, hexagon spanner
	3390014	Bag w/screws and allen keys
	3504777	Guide
	3396257	Foam packing - order 2 pcs.
	3392066	Outer carton

Wall bracket, distant 4096
1409611

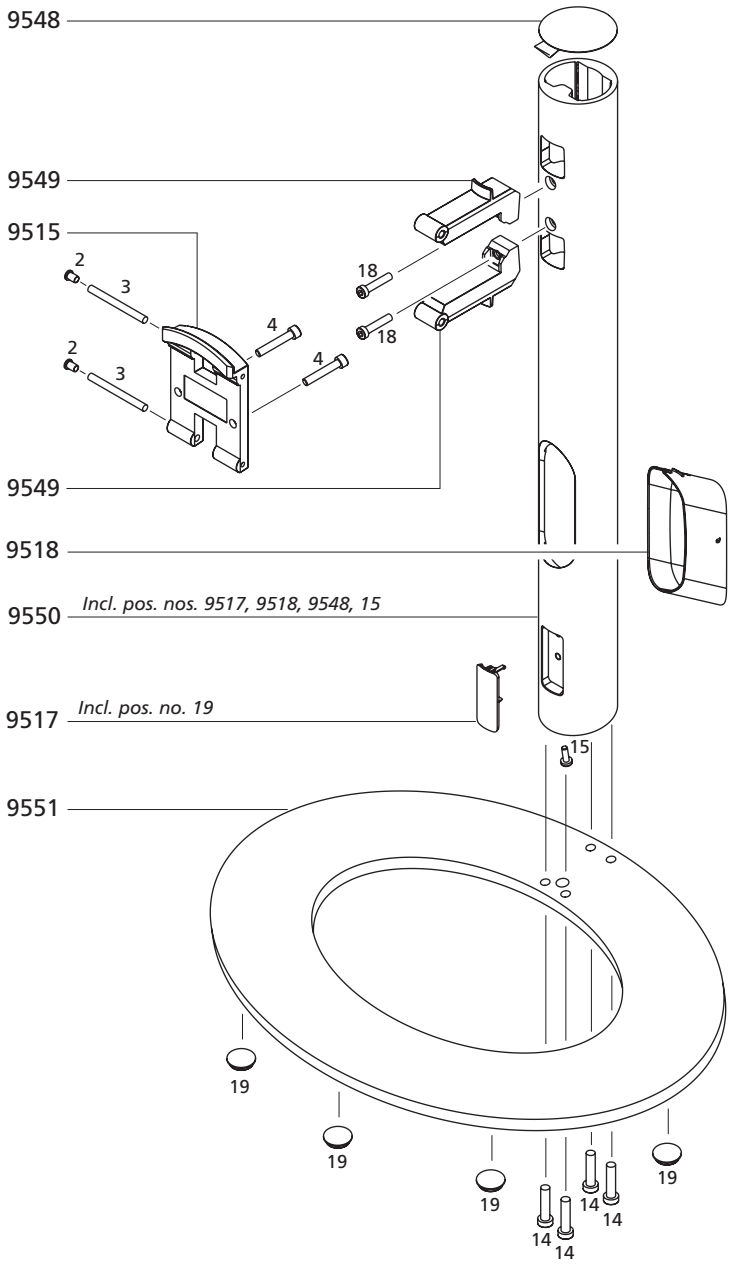


9510	3459468	Plate
9511	3130349	Tilt mechanism, incl. pos. no. 1
9513	3010058	Stopper, black
9514	3151416	Arm
9515	3151142	Bracket
9516	3010057	Stopper, white
9518	2950050	Conduit
9540	2950119	Alu. tube
9541	2620004	Friction disc, upper
9542	2620003	Friction disc, lower
9543	3031021	Mounting bracket
9546	2950120	Bracket f/loudspeaker incl. pos. no.9518, 17
9547	3151818	Wall bracket

1	2015001	Screw 4 x 12mm
2	3341008	Plug
3	2830030	Needle
4	2058077	Screw 5 x 20mm
5	2058076	Screw 8 x 45mm
15	2015001	Screw 4 x 12mm
16	2043016	Screw 4 x 10mm
17	2058080	Screw 8 x 30mm

	3390010	Bag w/2 x screws f/TV, cable cover, hexagon spanner
	3390014	Bag w/screws and allen keys
	3504776	Guide
	3396259	Foam packing - order 2 pcs.
	3392111	Outer carton

Table stand 4097
1409766



9515	3151142	Bracket
9517	2950111	Cover
9518	2950050	Conduit
9548	3454038	Plate
9549	3031078	Arm
9550	2950114	Aluminium tube incl. pos. nos. 9517, 9518, 9548, 15
9551	3454039	Bottom plate incl pos. no. 19

2	3341008	Plug
3	2830030	Needle
4	2058077	Screw 5 x 20mm
14	2058079	Screw 6 x 25mm
15	2015001	Screw 4 x 12mm
18	2058082	Screw 5 x 25mm
19	3103379	Rubber foot

	3390013	Set of accessories
	3504778	Guide
	3396255	Foam packing - order 2 pcs.
	3392053	Outer carton

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